NEC

MODEL ST-6350

COLOR TELEVISION

SERVICE MANUAL

PART NO. 399910500

Better Service
Better Reputation
Better Profit

SPECIFICATIONS

Power Requirements	AC 240V, 50Hz
Power Consumption	125W
Receiving System	CCIR B/G
Color Receiving System	PAL
Receivable Channels	VHF Channels 0 to 5 VHF Channels 5A to 11 UHF Channels 28 to 63
Channel Selection	28 Channel, Voltage Synthesized Tuning
Intermediate Frequency	Picture 36.875 MHz Sound 31.375/31.135 MHz
Speakers	Oval type 5.5 × 9 cm 2pcs
Sound Output Power	2.5W + 2.5W (Internal) 5W + 5W (EXT. 8 Ω SPEAKER)
Antenna Input Terminal	75Ω unbalanced, 300Ω balanced with supplied balun
Picture tube	63 cm (Diagonal), A63JHF80XP
Video Input Terminal	1.0Vp-p, 75Ω unbalanced, composite video signal sync-negative (BNC type)
Video Output Terminal	1.0Vp-p, 75Ω unbalanced, composite video signal sync-negative (BNC type)
Audio Input Terminals	400mVrms high impedance (Phono pin type)
Audio Output Terminals	400mVrms high impedance (Phono pin type)
Dimension	64.2(W)×58(H)×47.9(D) cm
Weight	35 Kg
Remote Control Unit	RC-1033E Requires two 1.5V penlight batteries (Type UM-3, AA size)

• Specifications subject to change without notice.

NEC Corporation

TOKYO, JAPAN

CONTENTS

SAFETY PRECAUTIONS 3
LOCATION OF CONTROLS 4
MECHANICAL DISASSEMBLY 6
PARTS LOCATION DIAGRAMS 7
BLOCK DIAGRAMS 10
ADJUSTMENT PROCEDURE 13
PRINTED WIRING BOARDS 20
REPLACEMENT PARTS LIST 23

SAFETY PRECAUTIONS

During servicing carefully observe the following.

1. OBSERVE ALL PRECAUTIONS

Items and locations that require special care during servicing, such as the cabinet, chassis, and parts, are labelled with individual safety instructions. Carefully comply with these instructions and all precautions in the instruction manual.

2. USE SPECIFIED COMPONENTS

The components have been chosen for minimum flammability and for specific levels of voltage resistance. Replacement parts must match these original specifications.
Parts whose specifications are particularly vital to safe use and maintenance of the set are marked ⚠ on the circuit diagrams and parts list.
Substitution of these parts can be dangerous for you and the customer, so use only specified parts.

3. REMOUNT ALL PARTS AND RECONNECT ALL WIRES AS ORIGINALLY INSTALLED

For safety, insulating tape and tubes are used throughout, but some lift-off parts on the printed wiring board require special attention.
These parts are positioned away from high-temperature and high-voltage parts, and, if removed for servicing, they must be returned precisely to their original positions.

4. HANDLE THE CATHODE RAY TUBE CAREFULLY

The set has an anti-explosion-type cathode ray tube as a precaution against violent implosion.
However, when the tube is removed or the set is serviced from the back, any shock to the cone can be dangerous. Be especially careful when handling the tube.

5. PRECAUTIONS AGAINST X-RAYS

Design of the cathode ray tube and high voltage peripheral circuits assure adequate protection against X-rays.
Any change in these circuits and connections can be dangerous. Use specified parts only. Use of other than specified parts can result in higher than rated voltage and lead to dangerous X-ray emissions.

6. RUN A COMPLETE SAFETY CHECK AT THE COMPLETION OF SERVICING

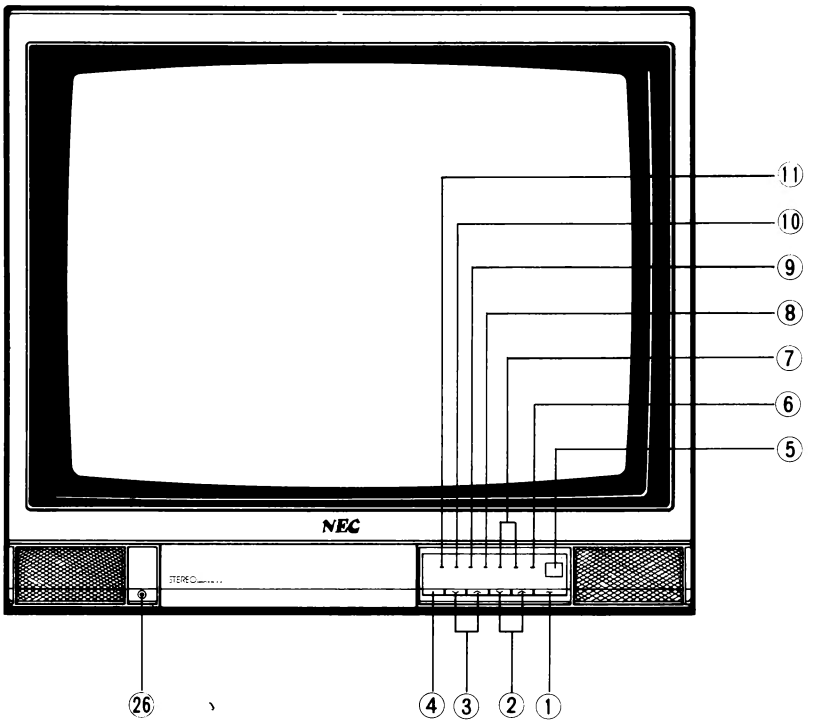
Make sure all screws, parts and wires are back in place and secure. Also make sure no damage has occurred during or as a result of servicing.
Also check the antenna terminal, all external metal connections, and the insulating layer between the plug blades.

(Insulation check)
Pull the plug out of the socket, remove the antenna, and turn on the power.
The resistance between each blade of plug and external metal parts (Note 1) must be at least 4MΩ as measured with a 500V insulation resistance meter (Note 2).
If resistance is below 4MΩ, the set must be inspected and repaired.

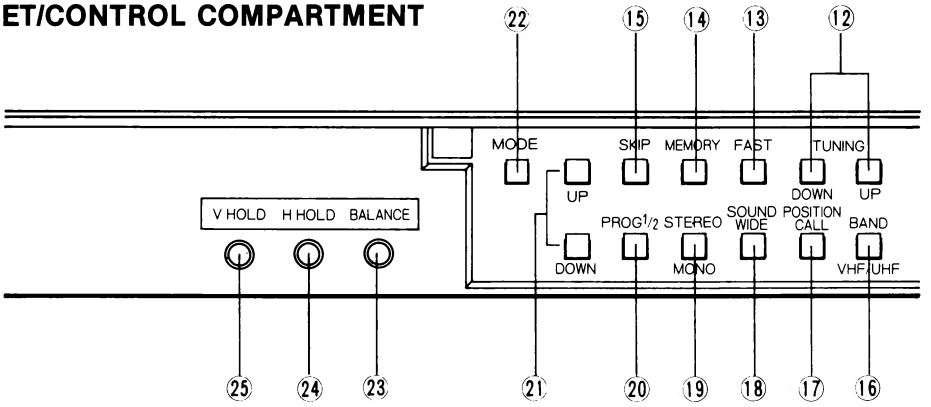
(Note 1)
External metal parts ..... antenna terminal, earphone jack, etc.
(Note 2)
If a 500V insulation resistance meter is not available, use a tester with internal resistance 10MΩ.

LOCATION OF CONTROLS

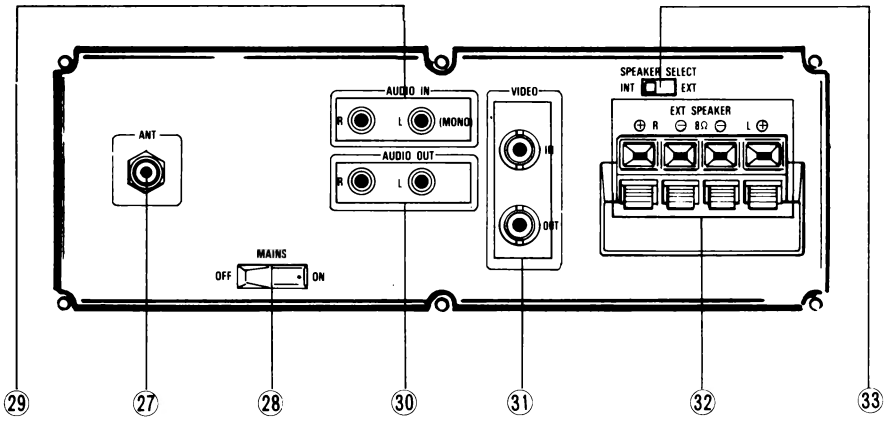
• FRONT PANEL



• CHANNEL PRESET/CONTROL COMPARTMENT



• REAR PANEL



DESCRIPTION OF CONTROL

• FRONT PANEL

1. OPERATE
2. CHANNEL Up/Down
3. VOLUME Up/Down
4. TV/VIDEO
5. Infrared Sensor Window
6. SOUND WIDE Indicator
7. PROGRAM 1/2 Indicators
8. STEREO (green)/DUAL SOUND (red) Indicator
9. MONO Indicator
10. AV Indicator
11. POWER (green)/ON-TIMER (red) Indicator

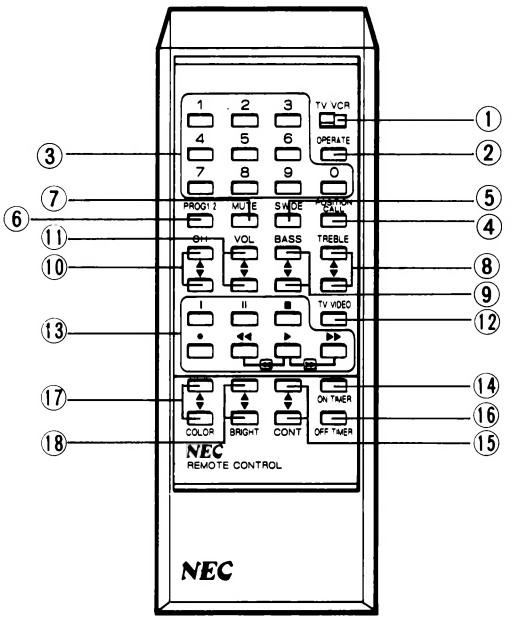
• REAR PANEL

27. ANTENNA Terminal
28. MAINS Switch
29. AUDIO INPUT [R/L(MONO)]
30. AUDIO OUTPUT
31. VIDEO INPUT/OUTPUT
32. EXT SPEAKER Terminals
33. SPEAKER SELECT Switch

• CHANNEL PRESET/CONTROL COMPARTMENT

12. TUNING Up/Down
13. FAST
14. MEMORY
15. SKIP
16. BAND Select
17. POSITION CALL
18. SOUND WIDE
19. STEREO/MONO
20. PROGRAM 1/2
21. MODE Control
22. MODE Select
23. BALANCE Control
24. HORIZONTAL Hold Control
25. VERTICAL Hold Control
26. HEADPHONES Jack

REMOTE CONTROL

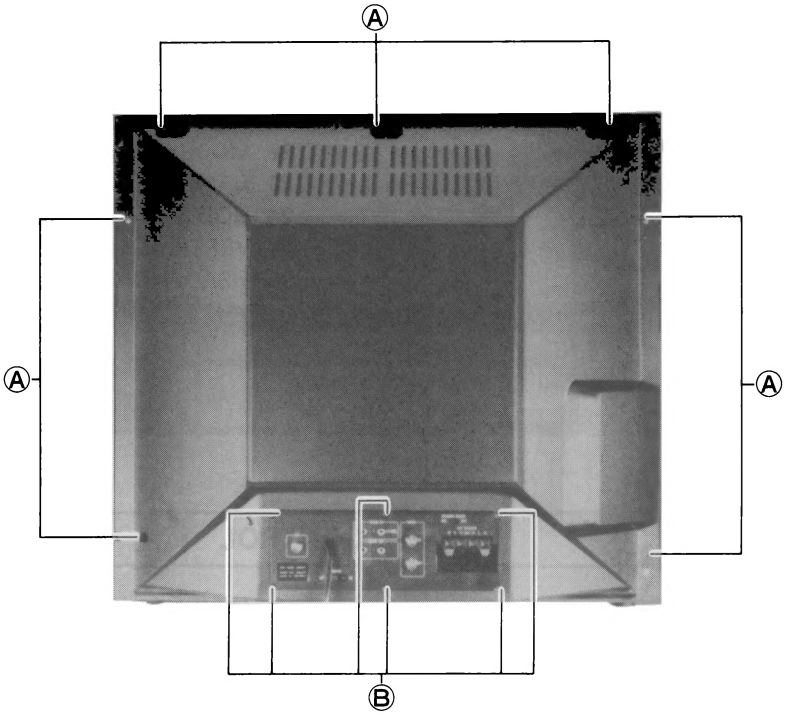


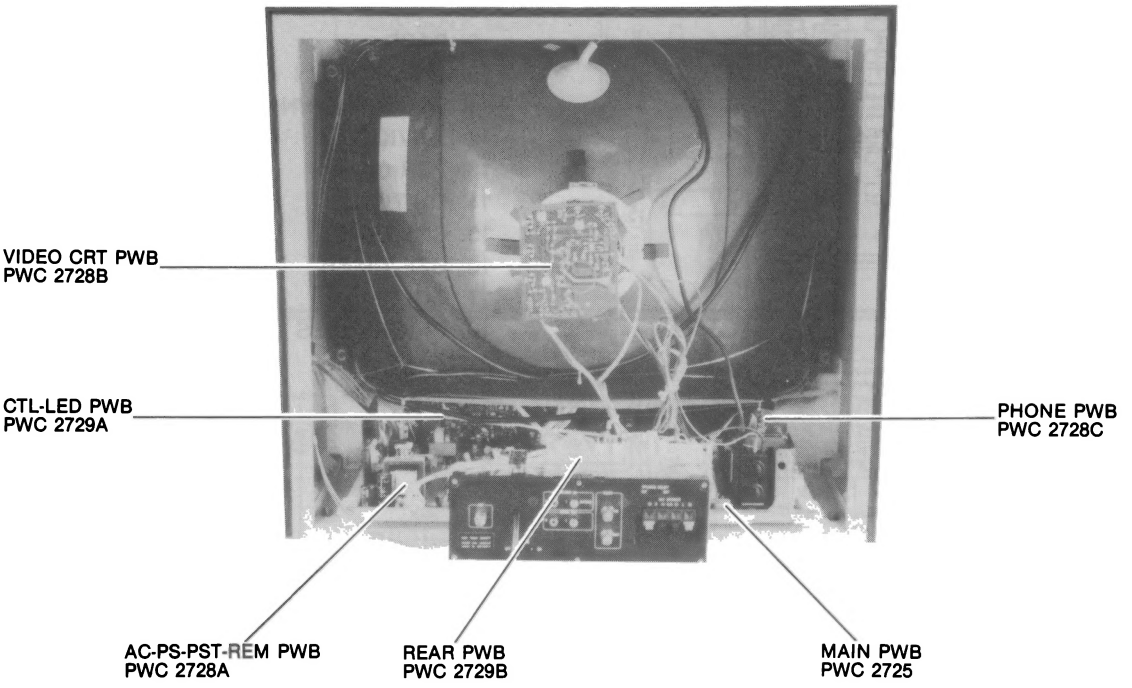
1. TV/VCR Switch
2. OPERATE
3. CHANNEL Select Buttons ("0 — 9")
4. POSITION CALL
5. SOUND WIDE
6. PROG 1/2
7. MUTE
8. TREBLE
9. BASS
10. CH UP/DOWN
11. VOL UP/DOWN
12. TV/VIDEO
13. VCR Control
14. ON-TIMER
15. CONTRAST
16. OFF-TIMER
17. COLOR
18. BRIGHTNESS

MECHANICAL DISASSEMBLY

CABINET BACK REMOVAL

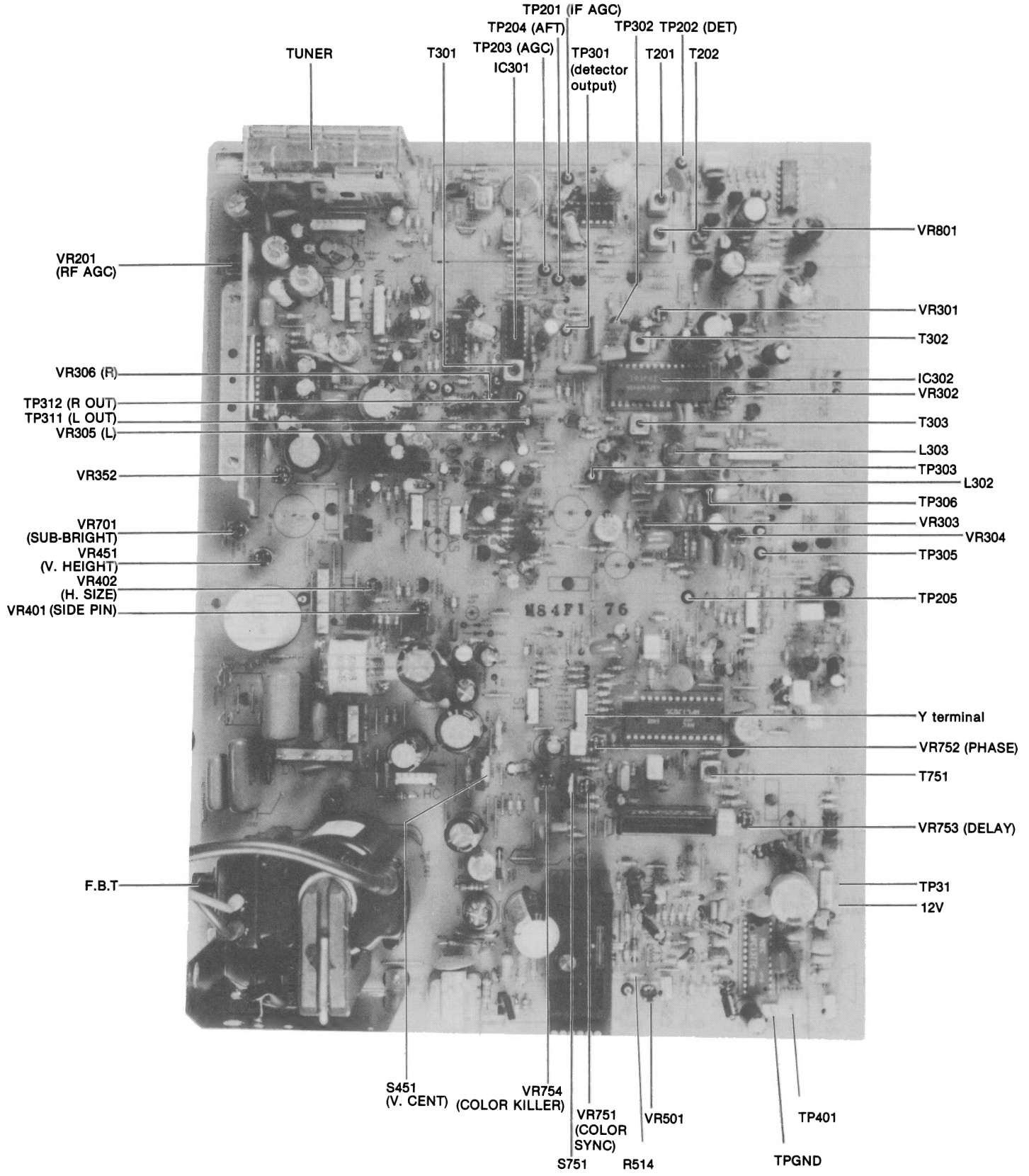
(1) Remove 7 Cabinet Back mounting screws Ⓐ.
(2) Remove 6 Antenna Terminal Assembly mounting screws Ⓑ.
(3) Remove the Cabinet Back.



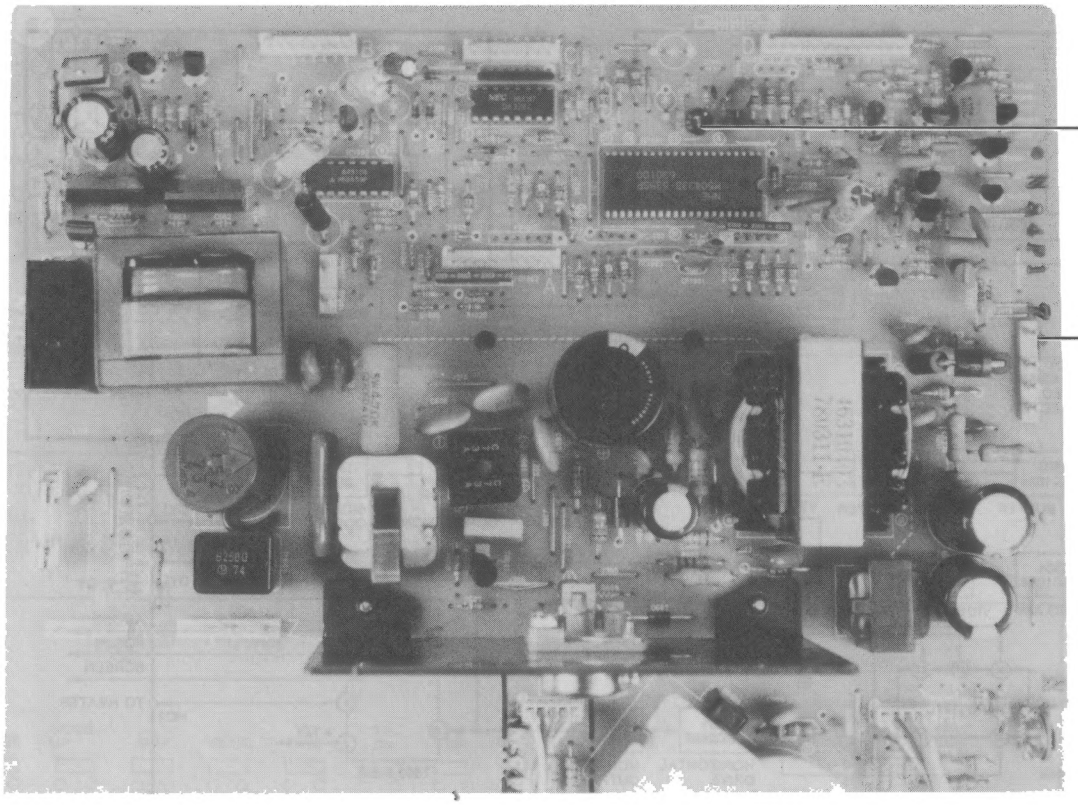


PARTS LOCATION DIAGRAMS

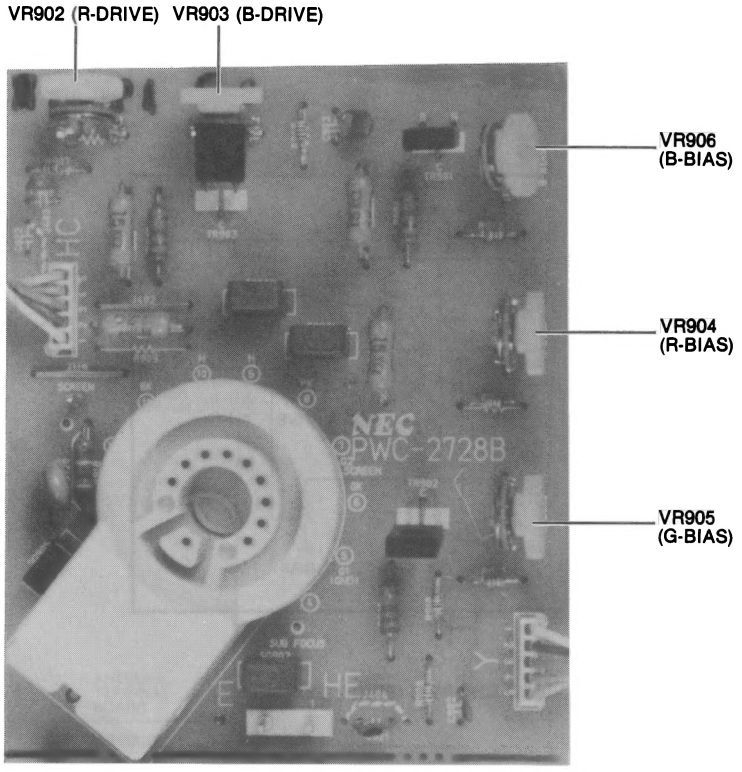
MAIN PWB (PWC 2725)



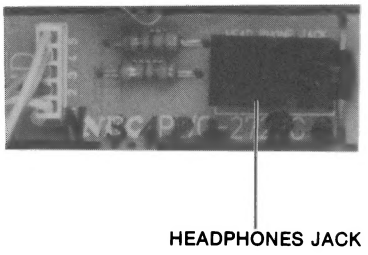
AC-PS-PST-REM PWB (PWC 2728A)



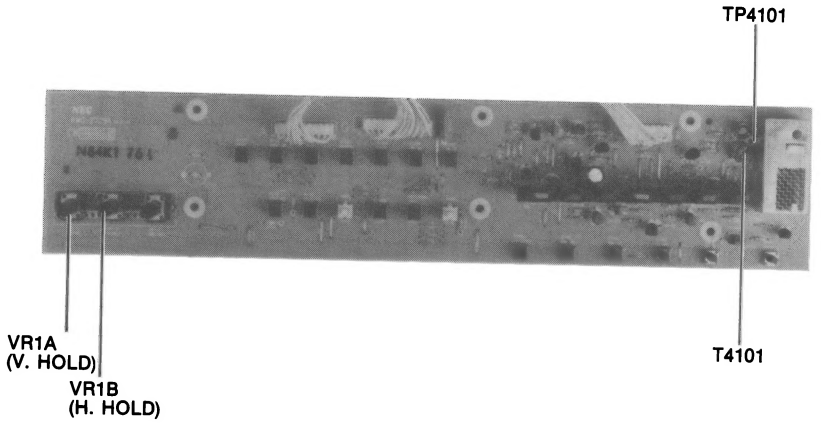
VIDEO CRT PWB (PWC 2728B)



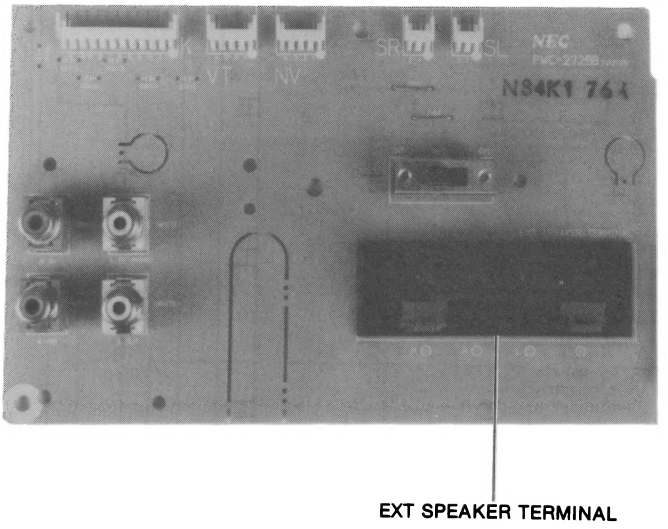
PHONE PWB (PWC 2728C)

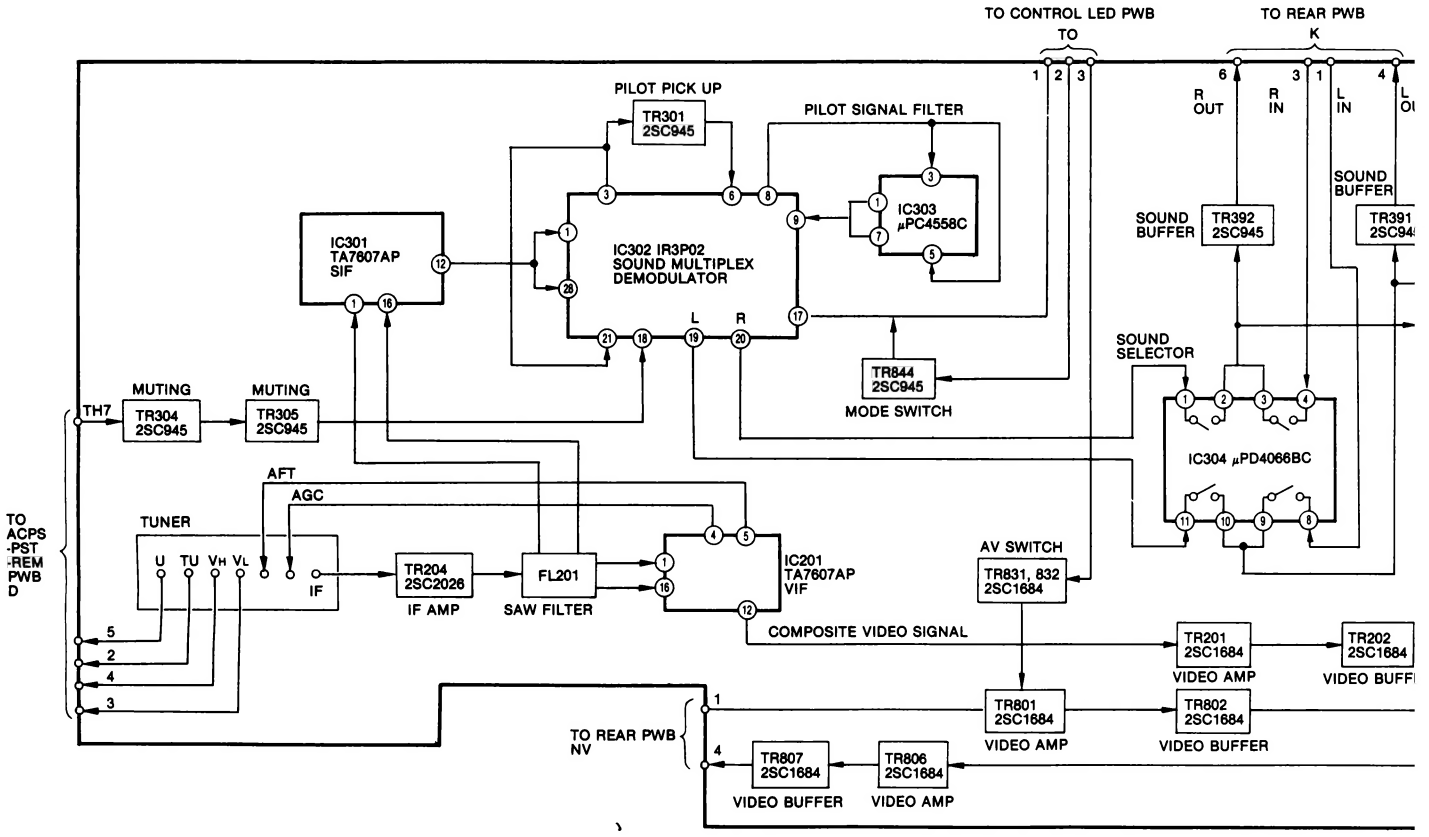


CTL-LED PWB (PWC 2729A)

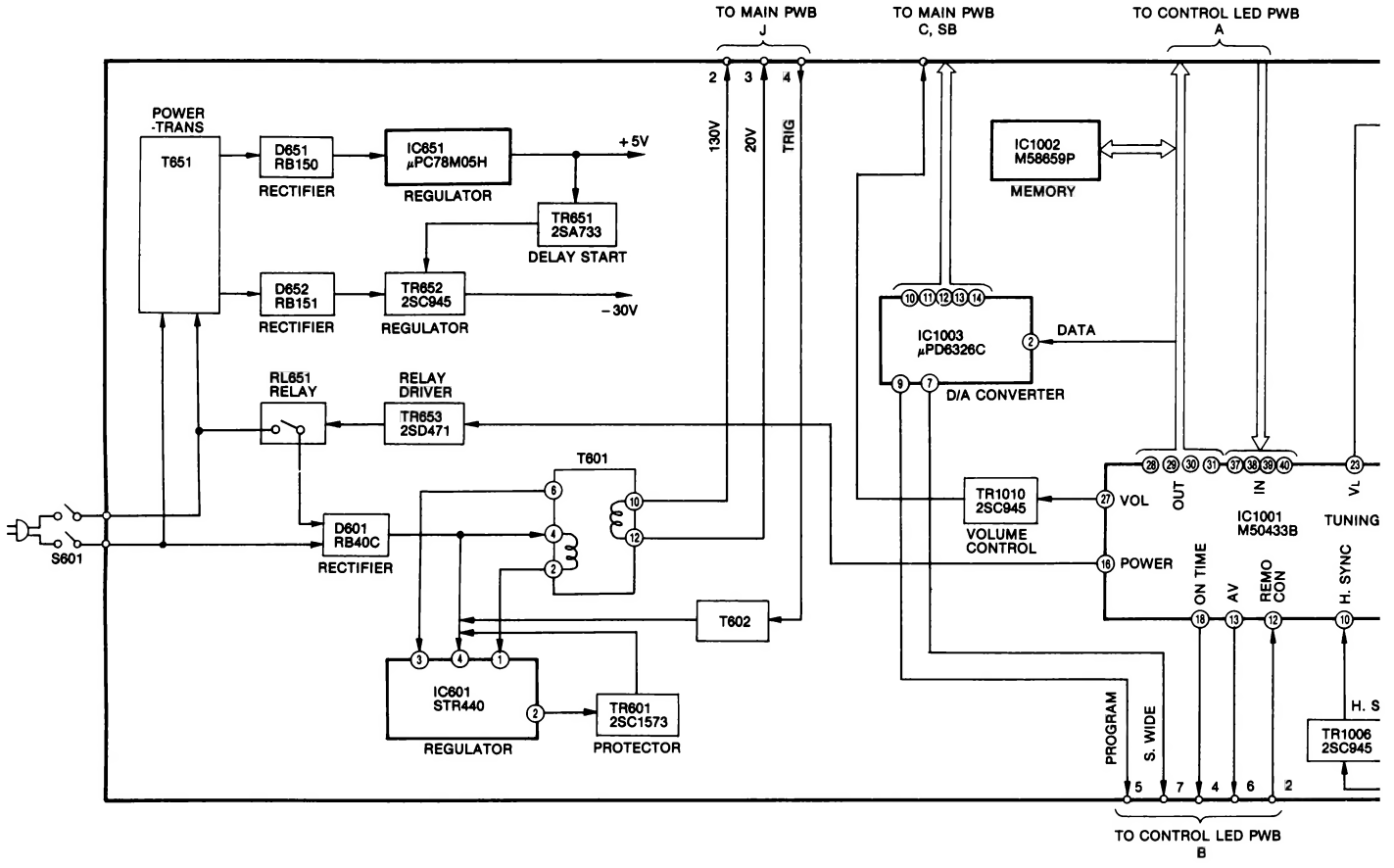


REAR PWB (PWC 2729B)

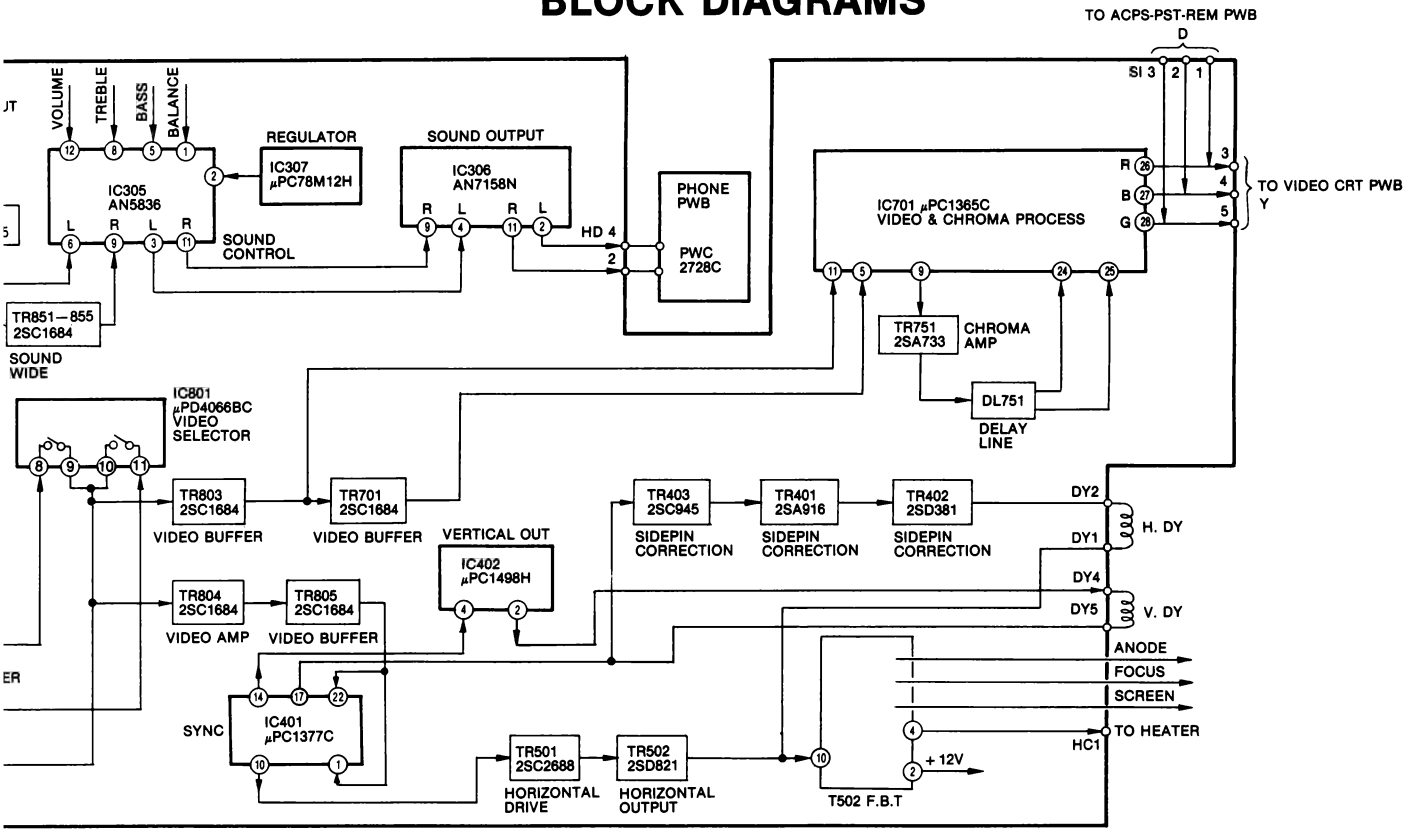


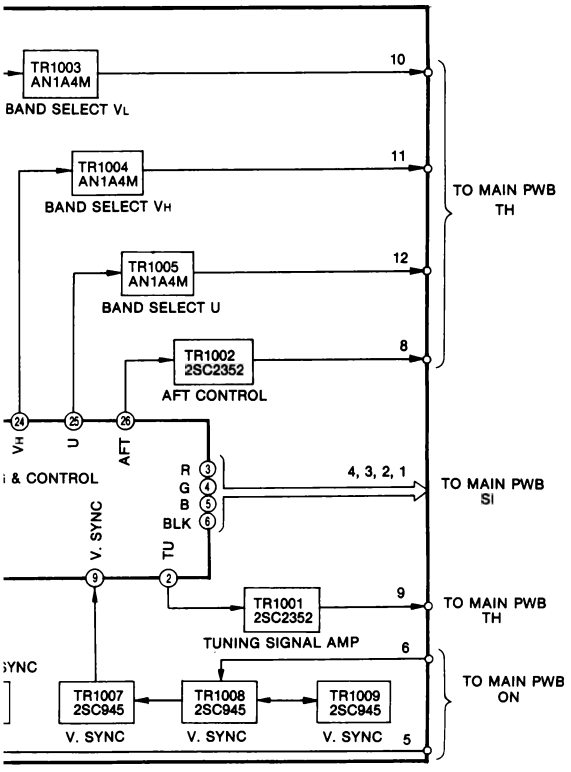


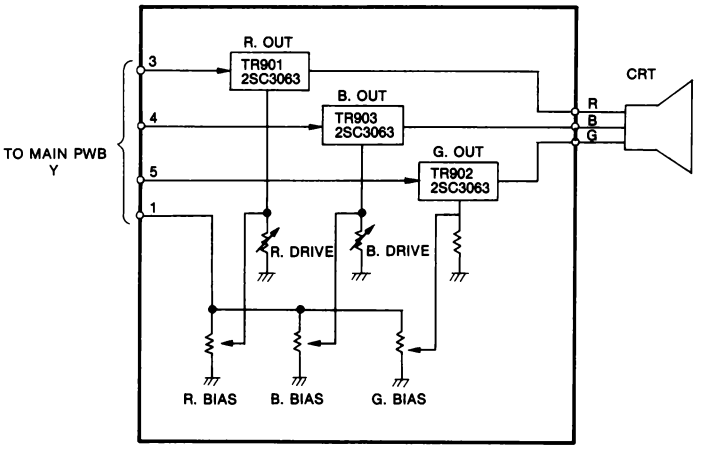
MAIN PWB (PWC 2725)



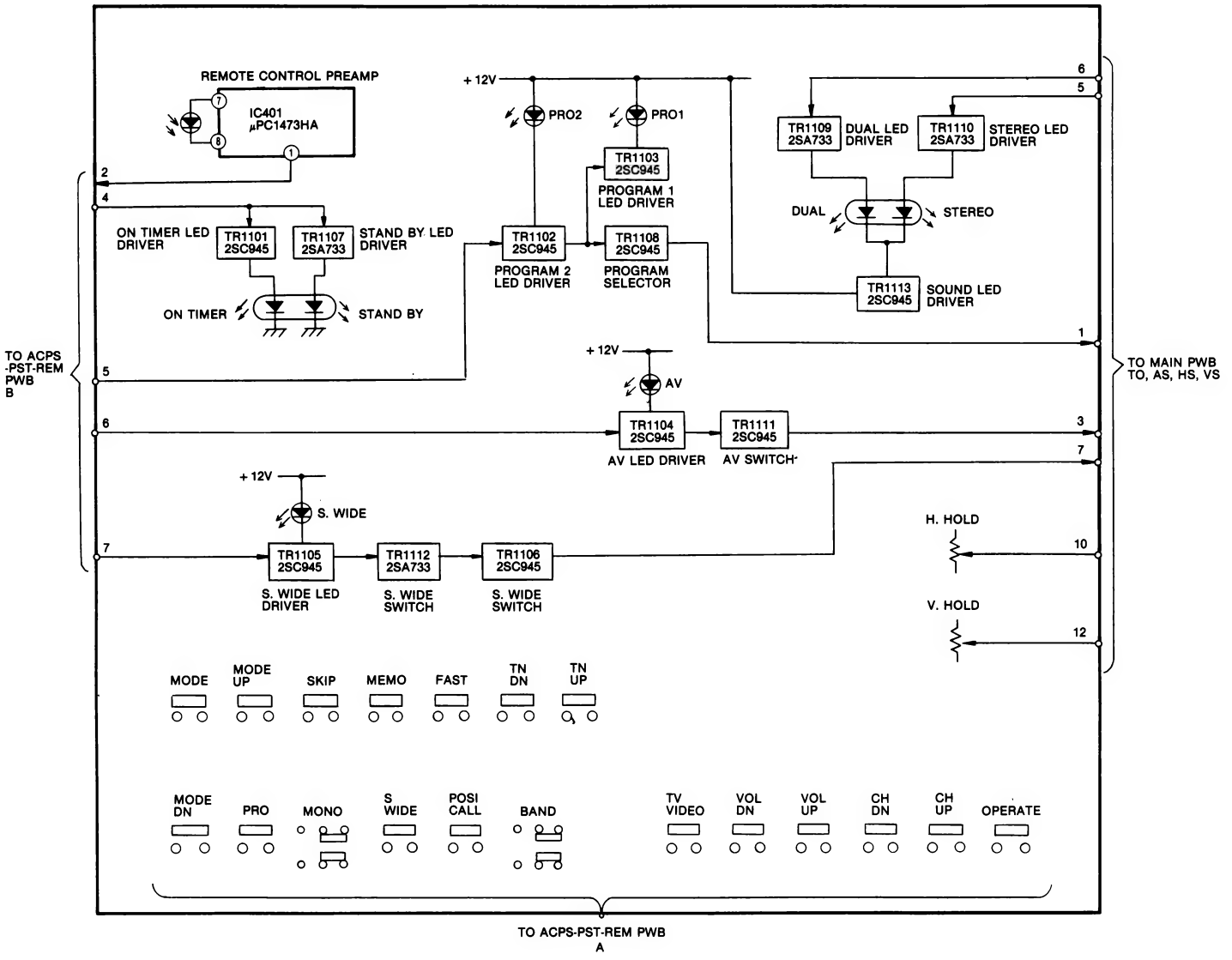
BLOCK DIAGRAMS



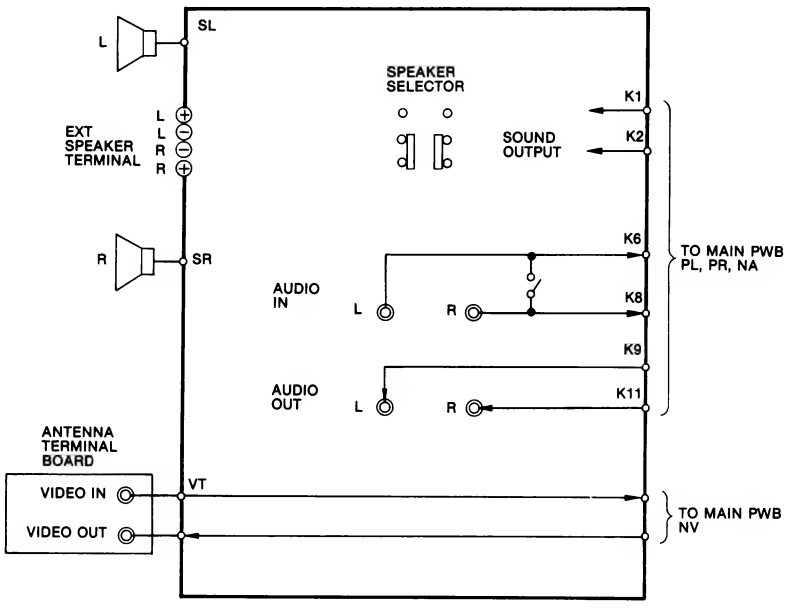




VIDEO CRT PWB (PWC 2728B)



CTL LED PWB (PWC 2729A)



REAR PWB (PWC 2729B)

ADJUSTMENT PROCEDURE

Note: Allow ten minutes warm-up before attempting adjustment procedure.

POWER SUPPLY SECTION

Confirmation of +B2 (130VDC)

(1) Plug the power cord into a 240V 50Hz AC main power supply.
(2) Feed in a monoscope pattern signal (or equivalent signal) and set the CONTRAST and BRIGHTNESS Controls to the maximum position and the volume to the minimum position.
(3) Connect a digital voltmeter between J2 terminal and ground.
(4) Confirm that the voltage is 130.5 ±1.5VDC.

VIF SECTION

Note: Disconnect the antenna cable before the following adjustments.

T201 (36.875MHz) Detector Coil Adjustment

(1) Set the receiver to normal mode by pressing the Memory button. Feed in a 36.875MHz carrier signal to IF OUT terminal of the tuner. Set its accuracy within ±10kHz and output level to 90dBμ or thereabouts.
(2) Connect an AGC bias control to TP201 (IF AGC, pin 14 of IC201) shown in Fig.1.

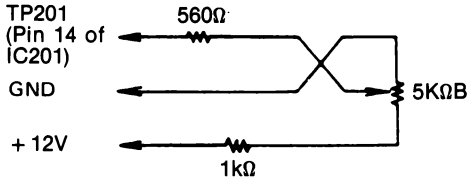


Fig. 1 AGC bias control

(3) Connect a DC voltmeter (15VDC range) to TP202. Adjust the AGC bias control to obtain a voltage that is 1.5VDC less than the maximum level (approx. 5VDC) at TP202 (DET).
(4) Turn T201 until the indication of the voltmeter is minimized. When the voltage at TP202 is less than 2VDC, repeat Item (3).

T202 (AFT Coil) Adjustment

(1) Continuous alignment of above item.
(2) Connect the voltmeter (internal resistance: more than 10MΩ) to TP204 (AFT).
(3) Turn T202 to be sure that the indicating hand deflects by about 2 - 10 volts upward and downward from the 6 volt mark, and set T202 so that the indicating hand is in the middle of the swing range.

PICTURE

White Balance Adjustment

(1) Feed in a monoscope pattern signal (or equivalent signal) and set the BRIGHTNESS and CONTRAST Controls to the minimum position.
(2) Set VR902 (R.DRIVE), VR903 (B.DRIVE), VR904 (R.BIAS), VR905 (G.BIAS) and VR906 (B.BIAS) to their mechanical center positions.
(3) Set the SCREEN VR to the minimum position, and connect a jumper lead between TP401 and ground. The raster will be replaced by a horizontal line.
(4) Adjust VR701 (SUB-BRIGHTNESS) so that the voltage at the G-cathode of the CRT is 150VDC.
(5) Turn the SCREEN VR clockwise until the first colored horizontal line is barely visible on the screen.
(6) Turn the associated BIAS VR fully counterclockwise.
(7) Turn the SCREEN VR to obtain a barely visible horizontal line of another color on the screen. Turn the associated BIAS VR fully counterclockwise.
(8) Again adjust the SCREEN VR to obtain the barely visible horizontal line of the remaining color. But leave the associated BIAS VR at its mechanical center. If the remaining color does not appear on the screen, turn the associated BIAS VR 45 degrees clockwise and readjust the SCREEN VR.
(9) Turn the other two BIAS VRs colckwise to obtain a white horizontal line.
(10) Remove the jumper lead from TP401 and set the CONTRAST and BRIGHTNESS Controls to the maximum position. Adjust white balance with the R. and B. DRIVE VRs.
(11) Adjusting the BRIGHTNESS and CONTRAST Controls, check the tracking of white balance. If necessary repeat steps (1) to (10).

Sub-Brightness Adjustment (To be carried out after white balance Adjustment)

(1) Feed in a monoscope pattern signal (or equivalent signal).
(2) Set the BRIGHTNESS Control to the maximum position and CONTRAST Control to the minimum position.
(3) Connect a 3mA ammeter (internal resistance 140Ω) to the Limiter Check terminals and adjust VR701 so as to obtain a 0.5mA reading on the ammeter.

RF AGC Adjustment

(1) Feed in a 60dBμ standard color bar signal (peak value, 75Ω load), set tuning to obtain an optimum picture and set the receiver to normal mode by pressing the Memory button.
(2) Connect the DC voltmeter to TP203 (AGC).
(3) Adjust VR201 (RF AGC) to obtain a 7.0VDC reading on the voltmeter.
(4) Increase the input signal level to 63dBμ and make sure that the AGC voltage drops by approx. 1.5VDC.

FOCUS

Focus Control Adjustment

(1) Feed in a monoscope pattern signal (or equivalent signal), set tuning to obtain an optimum picture.
(2) Press the Memory button to set the receiver to normal mode.
(3) Set the BRIGHTNESS and CONTRAST Controls to the maximum position.
(4) Adjust the FOCUS VR to obtain an optimum focus on the entire screen.

SOUND PROCESS

Detector Coil Adjustment (T301-36.875MHz)

(1) Feed in a 36.875MHz 90dBμ carrier signal to the TUNER IF output terminal.
(2) Connect the AGC bias control to pin 14 of IC301.

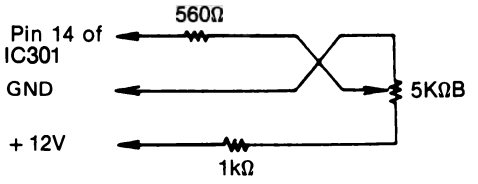


Fig. 2

(3) Connect a voltmeter to TP301 (detector output).
(4) Adjust AGC VR to obtain a voltage that is 1.0VDC less than the maximum (approx. 5VDC) at TP301.
(5) Turn T301 until the indication of the voltmeter is minimized. When the voltage is less than 2VDC, repeat Item (3).

T302 Adjustment (5.5MHz detection)

(1) Feed in a modulated dual mode signal (1kHz 70dBμ signal at 30kHz deviation) for both program 1 and program 2 channels or a modulated STEREO mode signal (1kHz 70dBμ signal at 30 kHz deviation) for both Right and Left channels.
(2) Connect an oscilloscope to TP302.
(3) Adjust T302 to obtain the maximum amplitude level (1kHz sine wave) at TP302.

T303 Adjustment (5.74MHz Detection)

(1) Feed in the same signal as in T302 Adjustment.
(2) Connect the oscilloscope to TP303.
(3) Adjust T303 to obtain the maximum amplitude level (1kHz sine wave) at TP303.

L302 and L303 Adjustments (Pilot Detection)

(1) Feed in the same signal as in T302 Adjustment.
(2) Connect the oscilloscope to TP305.
(3) Adjust L302 and L303 to obtain the maximum amplitude level (Dual Pilot Waveform 274Hz, or STEREO Pilot Waveform 117Hz) at TP305.

VR303 Adjustment (Dual Pilot Filter)

(1) Feed in a modulated dual mode signal (1kHz 70dBμ signal at 30kHz deviation) for both program 1 and program 2 channels.
(2) Connect the oscilloscope to TP306.
(3) Adjust VR303 to obtain the maximum amplitude level (Dual Pilot Signal 274Hz sine wave) at TP306.

VR304 Adjustment (Stereo Pilot Filter)

(1) Feed in a modulated stereo mode signal (1kHz 70dBμ signal at 30kHz deviation) for both Right and Left channels.
(2) Connect the oscilloscope to TP306.
(3) Adjust VR304 to obtain the maximum amplitude level (Stereo Pilot Signal 117.5Hz sine wave) at TP306.

VR301 Adjsutment (Stereo Separation)

(1) Feed in a modulated stereo signal (1kHz signal 70dBμ at 30kHz deviation) for both Right and Left channels.
(2) Connect the oscilloscope to TP311 (L OUT) and cut the Left channel signal from the generator.
(3) Adjust VR301 so that the R signal (crosstalk from R to L) becomes minimum.

VR302 Adjsutment

(1) Connect a 100μF/16V electrolytic capacitor between TP305 and ground.
(2) Feed in a 263Hz, 100mVrms sine wave signal to TP306.
(3) Turn VR302 fully clockwise.
(4) Connect an oscilloscope to pin 15 of IC302.
(5) Turn VR302 gradually counterclockwise until the voltage at pin 15 of IC302 is switched from H to L.

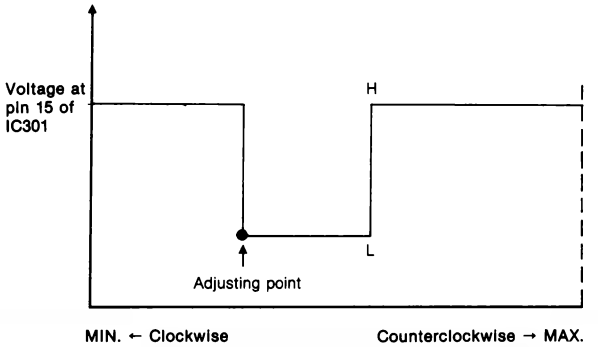


Fig. 3 Resistance Value of VR 302

CHROMA SECTION

1H Delay Line Adjustment

(1) Feed in a PAL "DEM" signal (Philips Model PM5509 or equivalent model).
(2) Set the COLOR Control to the maximum position.
(3) Connect an oscilloscope (0.5V/cm range) to Y3 terminal (R demodulator output) via the pad shown in Fig.4.

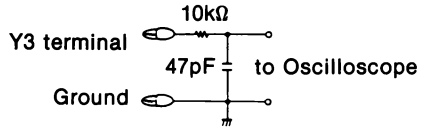


Fig. 4 Chroma Pad

(4) Turn T751 so as to align the first bars of each line to the same height. Confirm that the core of the transformer is not set too far toward the end.

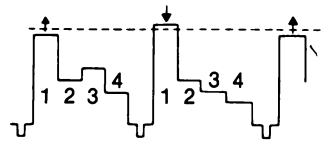


Fig. 5 T751 Adjustment

(5) Turn VR753 (DELAY) to align the third bars to the same height.

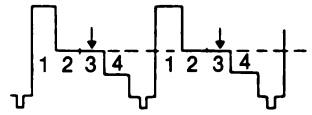


Fig. 6 VR753 Adjustment

(6) Adjust VR752 (PHASE) to align the fourth bars to the same height.

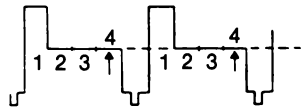


Fig. 7 Waveform after Adjustment

(7) Reduce the level of the BRIGHTNESS Control to confirm that there is no blind hangover.
(8) If necessary, repeat steps (4) to (6).

Color Sync Adjustment

(1) Feed in a standard color bar signal and set the receiver to normal mode by pressing the Memory button.
(2) Set S751 to ADJUST position and adjust VR751 (COLOR SYNC) until the color bar pattern is synchronized.

Color Killer Adjustment

(1) Feed in a monoscope pattern signal (or equivalent signal) and adjust tuning towards a higher frequency until a distorted picture is observed on the screen.
(2) Adjust VR754 (COLOR KILLER) until color noise disappears.
(3) Feed in a 30dBμ input color bar signal and make sure that color appears properly.

HORIZONTAL AND VERTICAL

Horizontal Synchronization

(1) Feed in a monoscope pattern signal (or equivalent signal) and set VR1B (H.HOLD) on the CTL-LED PWB to the mechanical center position.
(2) Connect a 1KΩ resistor between TP31 and +12V line.
(3) Turn VR501 so that the pattern is synchronized.

Horizontal Amplitude Adjustment

(1) Feed in a monoscope pattern signal (or equivalent signal) and set the CONTRAST and BRIGHTNESS Controls to the maximum position.
(2) Turn VR401 (SIDE PIN) so that the sidepin distortion becomes minimum.
(3) Adjust VR402 (H.SIZE) so that the horizontal overscan is 10%.

Vertical Amplitude Adjustment (To be carried out after Horizontal Amplitude Adjustment)

Feed in a monoscope pattern signal (or equivalent signal) and adjust VR451 (V.HEIGHT) to obtain a proper circle according to the horizontal amplitude.

AV INPUT

VR305 (L) and VR306 (R) Adjustments

(1) Feed in a 400Hz, 400mVrms AUDIO signal to L AUDIO IN terminal.
(2) Connect an oscilloscope (or RMS voltmeter) to AUDIO OUT terminals.
(3) Set to the VIDEO mode and read the level on the oscilloscope.
(4) Feed in a 400Hz, 100% modulated RF signal (50kHz deviation).
(5) Set to the TV mode and adjust VR305 (L) and VR306 (R) to obtain the same level as in the VIDEO mode.

VR352 Adjsutment (This Adjustment is to be carried out after VR305 and VR306 Adjustments.)

(1) Feed in a 400Hz 400mVrms AUDIO signal to L and R AUDIO IN terminals. And set the BALANCE Control to the center click position.
(2) Connect a RMS voltmeter to Left speaker terminal.
(3) Adjust the Sound Volume to obtain 1Vrms at Left speaker terminal.
(4) Connect the RMS voltmeter to Right speaker terminal.
(5) Adjust VR352 to obtain 1Vrms at Right speaker terminal.

VR801 Adjsutment

(1) Feed in a color bar signal (1Vp-p/75Ω) to VIDEO IN terminal.
(2) Feed in a color bar signal to RF terminal.
(3) Connect the oscilloscope to TP205.
(4) Set to the TV mode and read the level on the oscilloscope.
(5) Set to the VIDEO mode and adjust VR801 to obtain the same level as in TV mode.

ON SCREEN

Display Position Adjustment

(1) Feed in a complete pattern signal (or equivalent).
(2) Push the POSITION CALL button and confirm the CH position display on the screen.
(3) Adjust VR1001 so that the on-screen indication is in optimum position.

HIGH VOLTAGE CHECK

(1) Feed in a monoscope pattern signal (or equivalent signal).
(2) Set the BRIGHTNESS and CONTRAST Controls to the maximum position and the volume to the minimum position.
(3) Connect a DC voltmeter between Terminal J2 and ground.
(4) Confirm that the voltage is 130.5 ±1.5VDC.
(5) Confirm that the high voltage is 28.5 ±1.2kV.

CHECKING HIGH VOLTAGE PROTECTOR

(1) Apply 7VDC from external power supply to TP2001 and confirm that a High Voltage Protector functions.
(2) Turn off the MAINS Switch and remove the external power supply.
(3) Turn on the MAINS Switch after 10 seconds and confirm that the set operates normally.

REMOTE CONTROL

(1) Connect an oscilloscope (0.2V/div range) to TP4101 on the CTL LED PWB.
(2) Change R1 from 1Ω to 1kΩ to reduce the reach of the remote control to 60-70 cm.
(3) Arrange the optic axis of remote control unit and that of the sensor window. Set a distance to 20cm between the remote control unit and sensor unit.
(4) Press the CH ∧(Up) button on the remote control unit.
(5) Turn T4101 so that the amplitude of the waveform on the oscilloscope is maximized. Conform that the maximized amplitude is 1±0.3Vp-p.

PURITY AND CONVERGENCE ADJUSTMENT

Allow 10 minutes minimum warm-up time.

Purity Adjustment

(1) Degauss the CRT with degausser.

(2) Feed in a monoscope pattern signal.

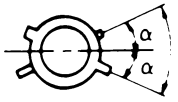
(3) Check whether the static magnets are fixed in the correct position as shown in Fig. 8 and whether (A) purity magnet, (B) 4-pole magnet and (C) 6-pole magnet fingers are at the positions indicated in Fig. 9.

Note: When the 4-pole and 6-pole magnet fingers are lined up correctly, the magnetic field is "zero" and R.G.B. static convergence should be close. If off, perform rough convergence adjustment before proceeding to the later adjustment.

(4) Set the G. BIAS VR on the VIDEO CRT PWB to the minimum position to obtain magenta color.

(5) Loosen the deflection yoke set screw and pull the yoke backward.

(6) Spread out the two fingers of the purity magnet for the same angle from their original horizontal positions until a magenta vertical stripe appears in the centre of the screen.



(7) While watching the screen, move the deflection yoke forward until optimum purity position is obtained, then tighten deflection yoke setscrew lightly. If the deflection yoke tends to bow down, insert a spare wedge from top of the yoke flare mouth.

(8) Turn the G. BIAS VR on the VIDEO CRT PWB to the centre position and check for an even white screen. If an even white color is not obtained, repeat steps (4) to (8).

(9) Connect a jumper lead between TP401 and ground to obtain a horizontal line on the screen. If the horizontal line is tilted, rotate the deflection yoke unitl the horizontal line is positoned within ±5mm from the geometrical centre of the screen. If the horizontal line is not positioned as above, rotate the purity magnet (while maintaining the preset angle between the fingers) until the horizontal line is positioned within the tolerance.

(10) Remove the jumper lead and confirm purity of entire screen area.

(11) If necessary, repeat steps (4) to (10).

(12) Tighten the deflection yoke setscrew at 14kg-cm torque.

(13) After completing the purity adjustment, adjust CRT focus to obtain an optimum picture. Adjust focus on the monoscope pattern with maximum contrast and brightness to obtain optimum focus at third and fourth focus contrast chart zones. (Refer to Fig. 10)

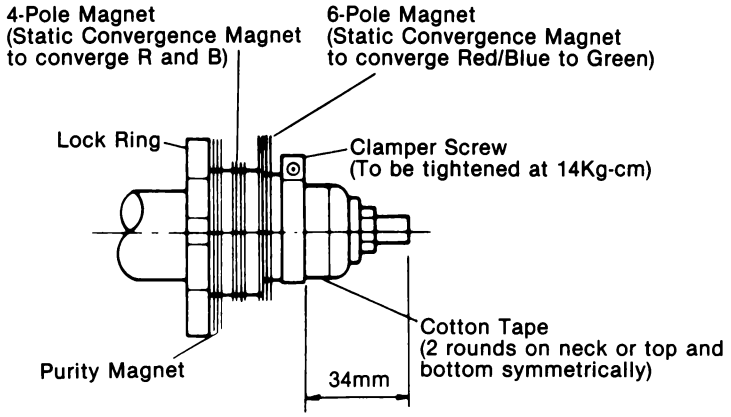


Fig. 8 Static Magnets

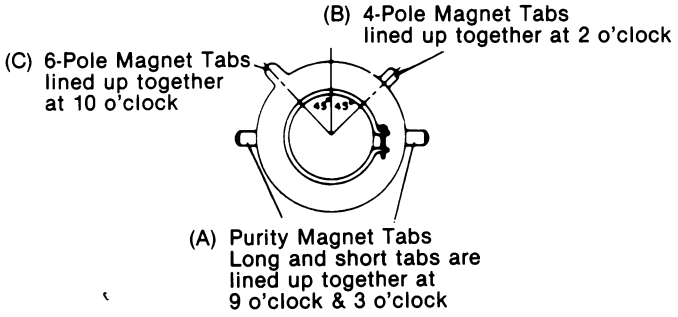

(B) 4-Pole Magnet Tabs
lined up together at 2 o'clock
(C) 6-Pole Magnet Tabs
lined up together
at 10 o'clock
(A) Purity Magnet Tabs
Long and short tabs are
lined up together at
9 o'clock & 3 o'clock

Fig. 9 Static Magnet Positions (Viewed from Rear of CRT)

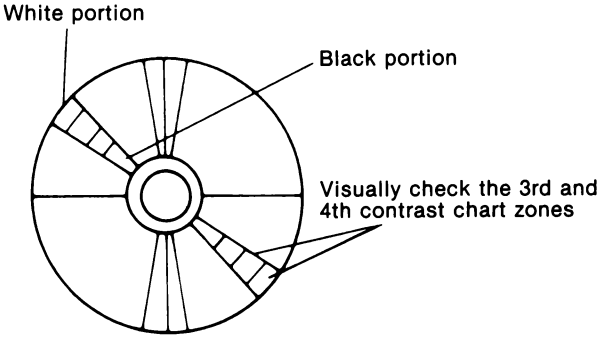


Fig. 10 Focus Adjustment

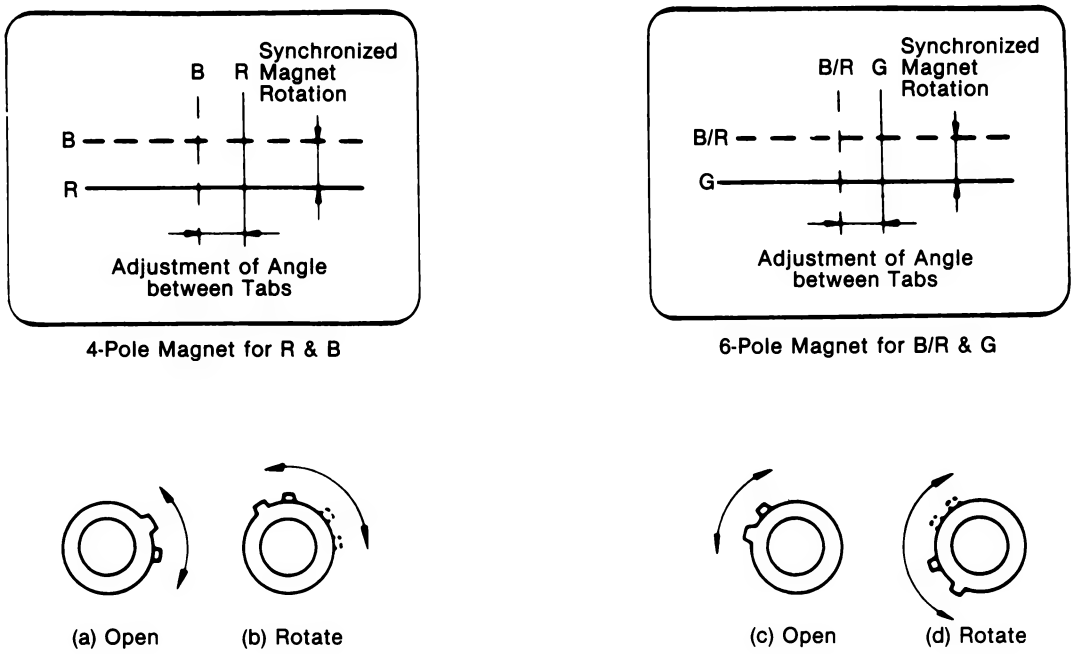


Fig. 11 Static Convergence Adjustment

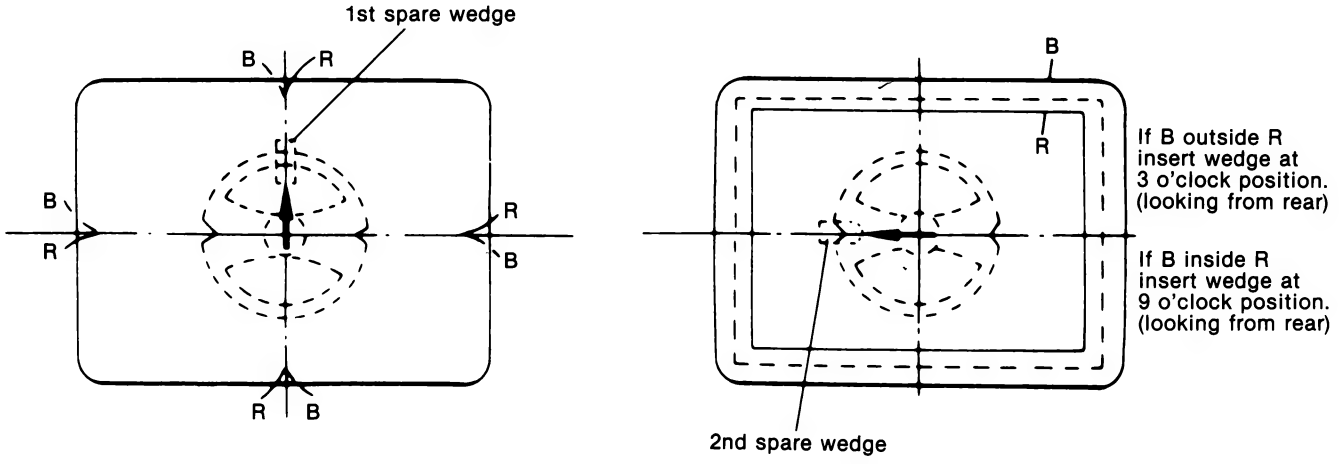


Fig. 12 Dynamic Convergence Adjustment (Front View)

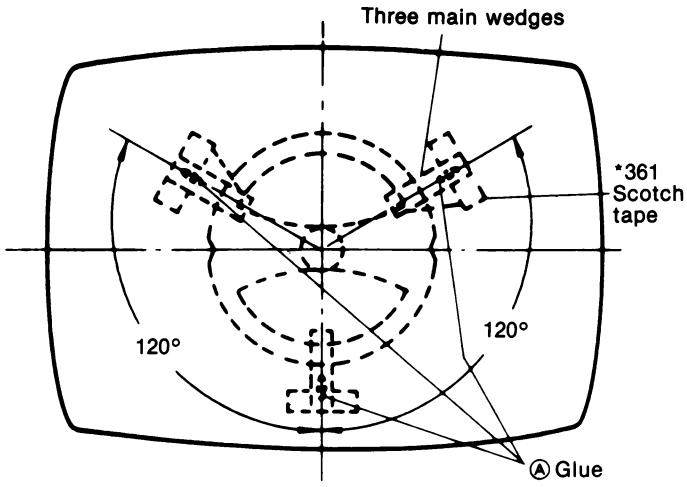


Fig. 13 Mounting the Wedge

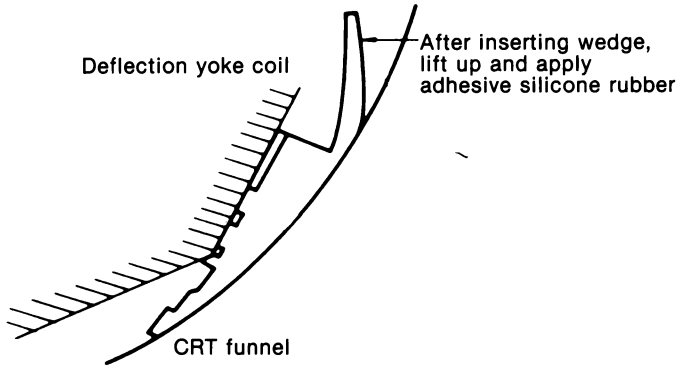


Fig. 14 Deflection Yoke Fixing Method

Static Convergence Adjustment

(1) Feed in a crosshatch pattern signal and adjust the CONTRAST and BRIGHTNESS Controls to minimize the black portion of the pattern.
(2) Turn the G. BIAS VR on the VIDEO CRT PWB to the minimum position to obtain only red and blue on the screen.
(3) Spread out the two fingers of the 4-pole magnets until the red and blue vertical stripes converge in the centre of the screen. (Refer to Fig. 11(a).)
(4) Next, with the same fingers spread, rotate the two fingers of the 4-pole magnets together until the red and blue horizontal stripes converge in the centre of the screen. (Refer to Fig. 11(b).)
If this operation causes the converging vertical stripes to get out of alignment, change the angle of fingers to obtain fine adjustment.
(5) Turn the G. BIAS VR on the VIDEO CRT PWB to the centre position to obtain red, green and blue on the screen.
(6) Spread out the two fingers of the 6-pole magnets until the red/blue and green vertical stripes converge in the center of the screen. (Refer to Fig. 11(c).)
(7) Next, with the same fingers spread, rotate the two fingers of the 6-pole magnets together until the red/blue and green horizontal stripes converge in the centre of the screen. (Refer to Fig. 11(d).)
If this operation causes the converging vertical stripes to get out of alignment, change the angle of fingers to obtain fine adjustment.
(8) After completion of the above adjustments, red/blue and green should converge in the centre of the screen. If not, repeat steps (2) through (7).

Dynamic Convergence Adjustment

Note: Wedges should be fixed at 120° intervals.

(1) Insert the first spare wedge directly on the top of the deflection yoke flare to minimize misconvergences of red and blue vertical stripes at the top and bottom centre, and also red and blue horizontal stripes at the right and left center of the screen. (Refer to Fig. 12)
(2) If the blue at the outer extremities of the screen is now outside the red as shown in Fig. 12, insert the second spare wedge at the 3 o'clock position (viewed from the rear) and adjust the angle of the yoke for best convergence.
(3) If the blue at the outer extremities of the screen is inside the red, insert the second spare wedge at the 9 o'clock position and adjust the angle of the yoke for best convergence.
(4) Insert the main wedge directly below deflection yoke flare and insert second and third main wedges spaced 120° apart.
(5) Remove the spare wedges and insert main wedges forcefully without changing deflection yoke angle after adjustments.
(6) Confirm convergence of entire screen area.

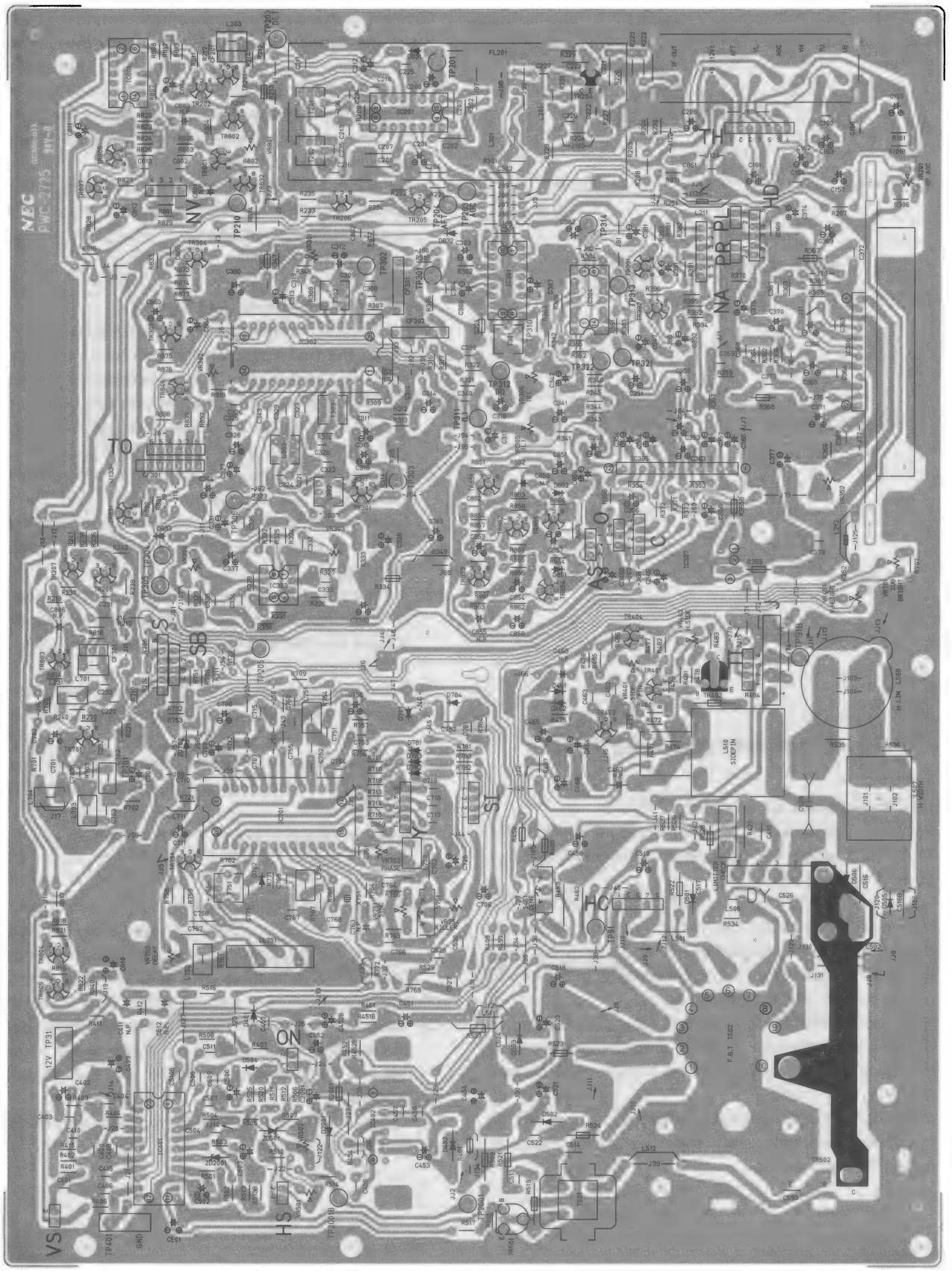
Deflection Yoke Fixing Method

(1) Before inserting the main wedges, apply No. 3145 RTV silicone rubber to the place where the main wedges will contact the deflection yoke coil. (Refer to Fig. 14)
(2) Insertion pressure of wedges should be more than 10 kg.
(3) Apply adhesive (No. 3145 RTV silicone rubber) between the wedge and the CRT funnel (Refer to Fig. 13 and Fig. 14), and then use Scotch tape No. 361 to cover any open spaces.
(4) Apply paint lock to the static magnets and the deflection yoke setscrew.

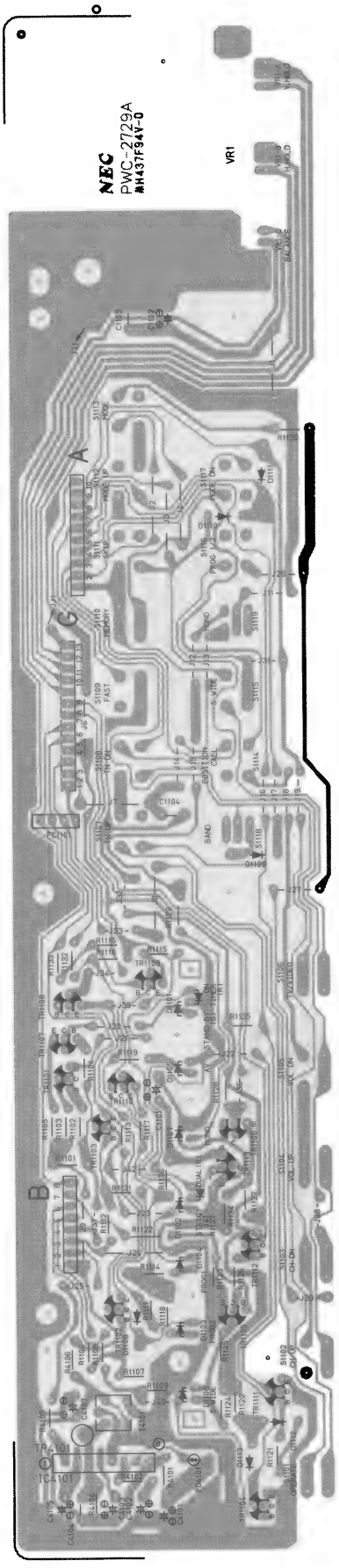
PRINTED WIRING BOARDS

All boards show the solder side.

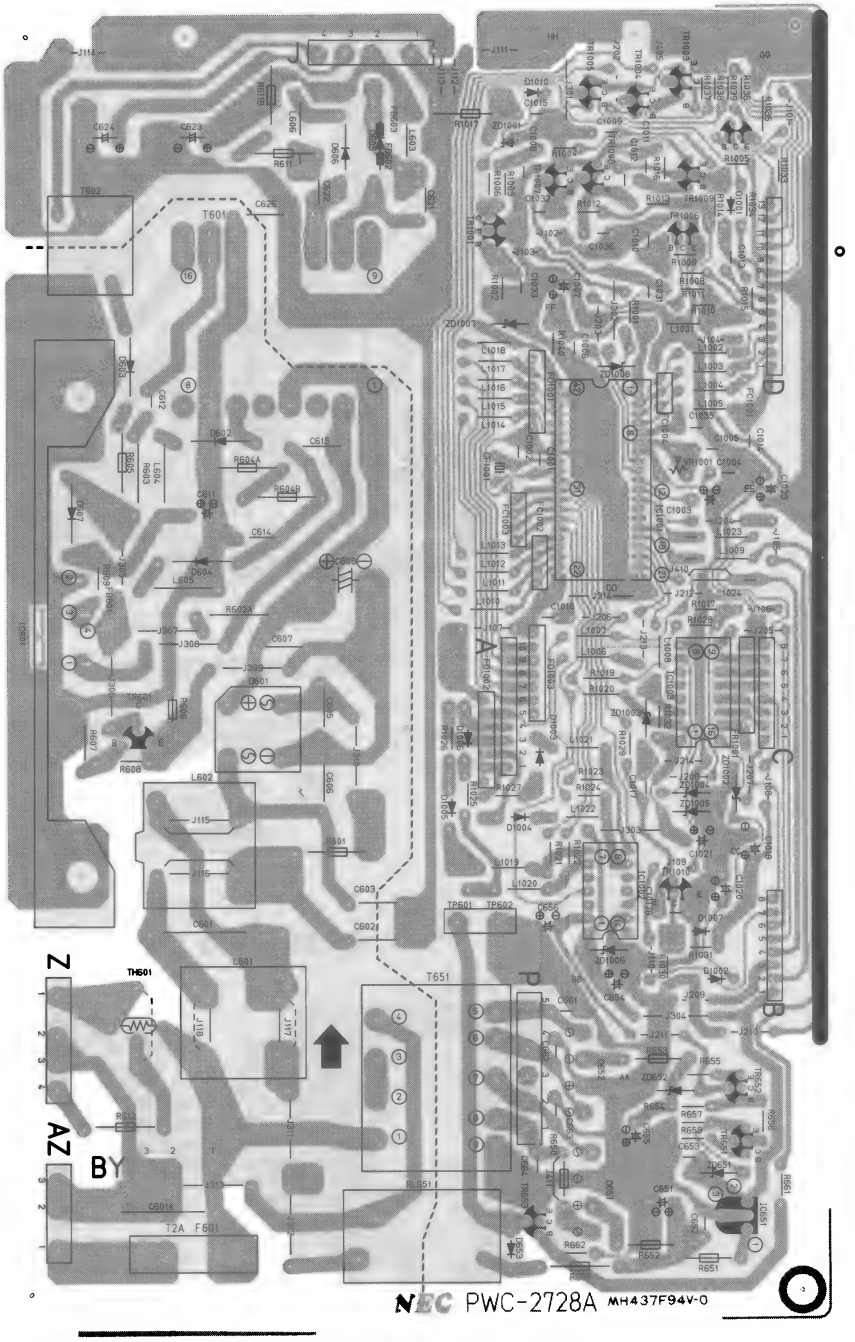
MAIN PWB (PWC 2725)



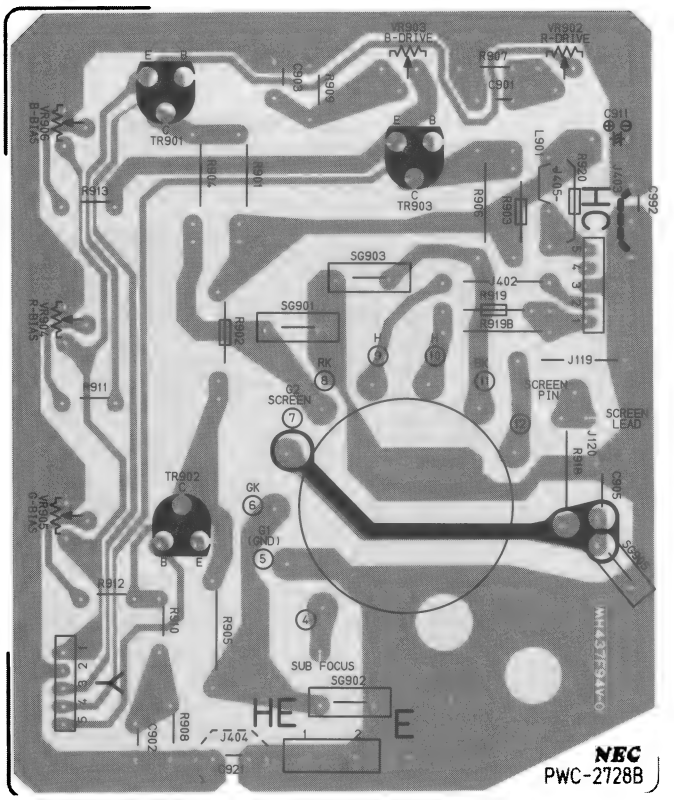
CTL-LED PWB (PWC 2729A)



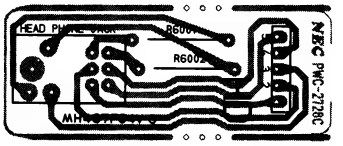
AC-PS-PST-REM PWB (PWC 2728A)



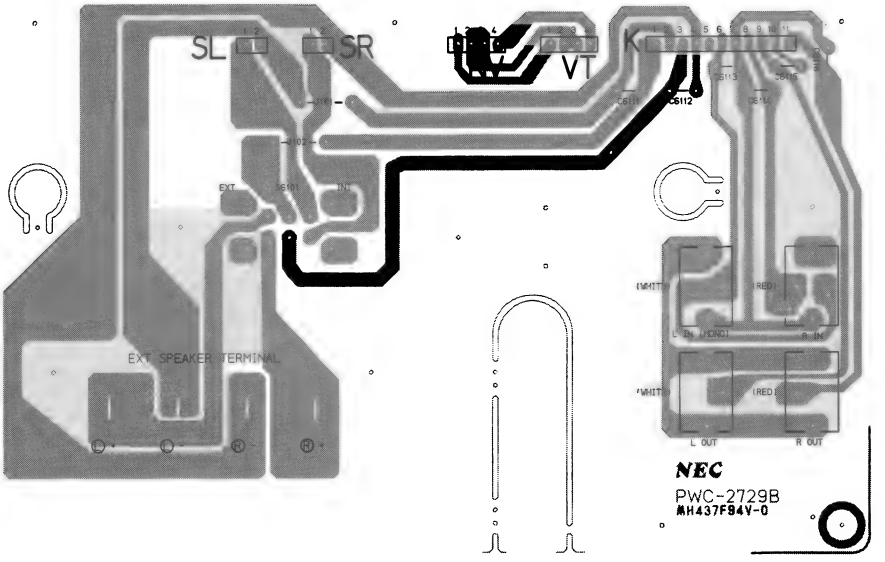
VIDEO CRT PWB (PWC 2728B)



PHONE PWB (PWC 2728C)



REAR PWB (PWC 2729B)



REPLACEMENT PARTS LIST

Notes:
1. Parts orders must contain model name, parts number and description.
2. When you place an order for spare parts, please refer to the respective service manual and mention the right parts number on your P.O. Sheets.
3. Standard resistors, capacitors and coils which are normally available from local electronics suppliers are not stocked in our warehouse.
4. The quantity of spare parts mentioned in this list is for one set.
5. The components identified by a ⚠ mark or with the symbol Nos. shaded are critical for safety. Replace only with parts number specified.
6. Appearance parts are indicated by a number within a circle, i.e., ③. Refer to page 30 for identification.

SYMBOL	PARTS NO	DESCRIPTION	QTY
	*** CRT & TUNER ***		
⚠CRT	33025048	CRT-A63JHF8CXP	1
TUNER	34333131	TUNER,COMB ELECTRONIC	1
	*** ICS ***		
IC3C6	37001047	IC AN7158N(SND)	1
IC3C5	37001059	IC AN5836(DC-CONT)	1
IC302	37001080	IC IR3P02 (SND MPX)	1
IC7C1	37003015	IC UPC1365C	1
IC3C7	37005011	IC UPC78M12H (REC)	1
IC651	37005012	IC UPC78M05H (REG)	1
IC601	37005024	IC STR440 (REG)	1
IC402	37006012	IC UPC1498H (V.OUT)	1
IC201 IC301	37007011	IC TA7607AP (VIF)	2
IC401	37009016	IC UPC1377C (HORI)	1
IC303	37011068	IC UPC4558C (OP AMP)	1
IC41C1	37011077	IC UPC1473HA (AMP)	1
IC304 IC801	37051036	MOS UPD4066BC (ESD)	2
IC1002	37058088	MOS M58659P (EAROM)	1
IC1001	37058112	MOS M5C433B-535SP (V/S)	1
IC1C03	37058114	MOS UPD6326C	1

SYMBOL	PARTS NO	DESCRIPTION	QTY
	*** TRANSISTORS ***		
TR1C02 TR1006 TR1007 TR1008 TR1009 TR1010 TR1101 TR11C2 TR1103 TR1104 TR1105 TR1106 TR1111 TR1113 TR201 TR2C2 TR301 TR304 TR305 TR391 TR392 TR4C3 TR652 TR701 TR801 TR802 TR803 TR804 TR805 TR806 TR807 TR831 TR832 TR844 TR851 TR852 TR853 TR854 TR855	350D7216	TR,2SC945-T P	39
TR1107 TR1108 TR1109 TR1110 TR1112 TR651	350K3516	TR 2SA733/2SA733A-T P	7
TR751			
TR4C1	35004112	TR,2SA916 L	1
TR204	35053700	TR,2SC2026	1
TR501	35056312	TR,2SC2688 L	1
TR1C01	35058011	TR 2SC2352 K	1
TR601	35058517	TR.2SC1573A Q	1
TR402	35063112	TR,2SD381 L	1
TR653	35065911	TR,2SD471 K	1
TR502	35069500	TR,2SD821	1
TR901 TR902 TR903	35084401	TR,2SC3063-RL	3
TR1003 TR1004 TR1005	351G0500	TR,AN1A4M-T	3

SYMBOL	PARTS NO	DESCRIPTION	QTY

*** DIODES ***

D1010			360K1015	DIODE 1SS54-T4	1
D1001	D1002	D1003	360K1027	DIODE 1SS132	25
D1004	D1005	D1006			
D1007	D1108	D1109			
D1112	D1113	D401			
D504	D653	D701			
D702	D781	D782			
D783	D784	D831			
D832	D833	D851			
D852					
ZD1C01			360K3049	ZENER DIODE UPC574J-T	1
ZD651	ZD702		360K3087	DIODE RD3.0EB-T4	2
ZD501			360K3098	DIODE RD12EB(3)-T4	1
ZD652			360K3109	DIODE,RD30EB(2)-T4	1
△ZD2001			360K3121	DIODE RD6.8EB(3)-T4	1
ZD1C02			360K3125	DIODE RD13EB(2)-T4	1
ZD1C03	ZD1004	ZD1005	360K3139	DIODE RD5.6EB(2)-T4	5
ZD1006	ZD1008				
D2001	D501	D503	361K7160	RECTIFIER,SI. TVR-C6G G23	3
D4C2			36107085	RECTIFIER,SI.1SR-35-1C0	1
D604			36107167	RECTIFIER,SI.RH-1C	1
D603	D607		36107168	RECTIFIER,SI.EH-1	2
D602			36107171	RECTIFIER,SI.EU-1Z	1
D502			36107175	RECTIFIER,SI. RH1S	1
D5C5			36107179	RECTIFIER,SI.RU3AM	1
D506			36107259	RECTIFIER,SI.CGJ-1	1
D606			36107289	RECTIFIER,SI. FE3B	1
D605			36107292	RECTIFIER,RU-4B	1
D651			36108003	DIODE,BRIDGE RB-150	1
△D6C1			36108009	DIODE,RB-40C BRIDGE	1
D652			36108011	DIODE,RB-151 BRIDGE	1
FD1C02			36108023	DIODE ARRAY RD5.6EB(1)*5A	1
FD1001			36108025	DIODE ARRAY RD5.6EB(1)*4A	1
D11C1	D1102		36801163	DIODE,LIGHT-E PRG5241KST	2
D1103	D1104	D1105	36801179	LED SLP262B/AB	5
D1106	D1107				
PD41C1			36803009	DIODE,PHOTO PH3C2B(1)	1
△TH601			38112023	THERMISTOR,PTC	1

SYMBOL	PARTS NO	DESCRIPTION	QTY

*** TRANSFORMERS ***

△T651	45015826	TRANS,POWER 19V C.15A	1
△T602	45404801	TRANS,EARPHONE	1
T501	45803001	TRANS,H.DRIVE	1
△T601	46310403	TRANS,CONVERTER	1
△T502	47105299	F.B.T	1

*** VARIABLE RESISTORS ***

VR1			41014281	R,VARIABLE	1
VR752	VR753		41071207	R,VARIABLE B1.0K	2
VR8C1			41071208	R,VARIABLE B1.5K	1
VR352	VR501		41071210	R,VARIABLE B3.3K	2
VR301	VR305	VR3C6	41071213	R,VARIABLE B10K	5
VR4C2	VR701				
VR4C1			41071215	R,VARIABLE B22K	1
VR302	VR303		41071219	R,VARIABLE B100K	2
VR304			41071223	R,VARIABLE B470K	1
VR451			41071305	R,VARIABLE B470H	1
VR1001			41071309	R,VARIABLE B2.2K	1
VR2C1	VR751	VR754	41071311	R,VARIABLE B4.7K	3
VR9C2	VR903		41085002	R,VARIABLE B200H	2
VR904	VR905	VR906	41085C07	R,VARIABLE B3K	3

*** RELAYS & SWITCHES ***

S61C1			⑫ 65113012	SWITCH,SLIDE	1
△S601			⑧ 65208007	SWITCH,SEE-SAW	1
S1101	S1102	S1103	65361C12	SWITCH,PUSH BUTTON	17
S1104	S1105	S1106			
S1107	S1108	S1109			
S111C	S1111	S1112			
S1113	S1114	S1115			
S1116	S1117				
S1118	S1119		65399074	SWITCH,PUSH BUTTON	2
△RL651			65602042	RELAY G5R-1112P	1
S451	S751		66099003	SWITCH,LEVER	2

SYMBOL	PARTS NO	DESCRIPTION	QTY
*** COILS & FILTERS ***			
T2C1 T2D2 T3D1	602800C1	COIL,VIF DETECTOR	3
T41C1	602991C3	COIL,DET 5.3MH	1
T3D2	60370103	COIL,DETECTOR 5.5MHZ	1
T3D3	60370104	COIL,DETECTOR 5.74MHZ	1
T751	60567003	COIL,DL MATCHING	1
L51C	60908039	COIL,VARIABLE WIDTH	1
L508	60917026	COIL,H.LIN	1
L3D2 L3D3	60980004	COIL,DETECTOR 54KHZ	2
L501 L512	610F6C14	COIL,FILTER 5.6UH	2
L603 L604 L605	610F7C44	COIL,FILTER 5.6UH	3
L1006 L1007 L1008 L1009 L101C L1011 L1012 L1013 L1014 L1015 L1016 L1017 L1018 L1019 L1020 L1021 L1022 L1023 L1024	610F7514	COIL,FILTER 5.6UH	19
L1001 L1002 L1003 L1004 L1005	610F7518	COIL,FILTER 12UH	5
L201	61011130	COIL,SAW MATCHING	1
L301	61011140	COIL,SAW MATCHING 1R9	1
L701	61013006	COIL,FILTER 2.7UH	1
L703 L754	61013010	COIL,FILTER 5.6UH	2
L752	61013013	COIL,FILTER 10UH	1
L751	61013014	COIL,FILTER 12UH	1
L203	61013015	COIL,FILTER 15UH	1
L702 L753	61013019	COIL,FILTER 33UH	2
L9C1	61051831	COIL,FILTER 150UH	1
⚠L601	61062018	COIL,LINE FILTER	1
⚠L602	61062022	COIL,LINE FILTER	1
L506	61064051	COIL,FILTER 2200UH	1
L606	61066C44	COIL,FILTER 5.6UH	1
CF3C1	61105C21	SIF FILTER SFT 5.5MA	1
CF3C2	61105C22	SIF FILTER SFT 5.74MA	1
CF2D1	61111004	CERAMIC TRAP 5.5MHZ	1
CF7C1	61111008	CERAMIC TRAP 4.43MHZ	1
CF1001	61111C12	CERAMIC OSC CSA4.00MT	1
FL2C1	61120C92	IF DOUBLE SAWF F1813	1
⚠	61326203	COIL,DEGAUSSING	1
DL751	61511008	DELAY LINE 1H,EN64511X	1
FB5C1 FB601 FB6C2 FB6C3	61605005	FERRITE BEADS 5*10*1.8	4
FB2C1	61605007	FERRITE BEADS 2.5*1.2*0.7	1

SYMBOL	PARTS NO	DESCRIPTION	QTY
*** PWB ASSYS ***			
	93N84F01	MAIN PWB ASSY	1
	93N84KC1	CTL/REAR PWB ASSY	1
	93N84P01	SUB PWB ASSY	1
*** ELECTRICAL PARTS & MISCELLANEOUS PARTS ***			
FC1003 FC1101	39013023		2
FC1C01	39016007	C,CERAMIC 50V 220PF	1
FC1C02	39016034	C,CERAMIC 50V 1000PF	1
FR1C01	39030074	R,NETWORK 6X5.6K 5% 1/8W	1
⚠DY	48007329	DEFLECTION YOKE	1
⚠	49005019	CPC MAGNET	1
	63010118		1
X751	64003026	X TAL 4.43M(KSS)	1
⚠F601	66602002	FUSE 2A 125V	1
SG901 SG902 SG903	66706001	SPARK GAP 1.2KV	3
SG9C5	66706003	SPARK GAP 2.0KV	1
⚠	70032222	SG/CRT SOCKET	1
PS-CUT	70101024	SOCKET,TR	1
H-OUT	70101027	TR.SOCKET FK111-0	1
	70301522	WEDGE 15	3
	70505029	JACK,HEADPHONE 3.6	1
	71121902	MATCHING BALUN(IEC 75-300	1
⑦	711225C9	TERMINAL BOARD,ANTENNA	1
⑬	71199C09	TERMINAL 4P,SPEAKER	1
F-6C1	71205037	HOLDER,FUSE	2
⚠	75513202	LINE CORD SAA-2 L2.5	1
	79607801	REM-T HAND UNIT RC-1033E	1
*** APPEARANCE PARTS ***			
①	24DS6925	PANEL,FRONT	1
⑥	24DS7151	CABINET BACK	1
②	24ES1952	CABINET	1
③	24FS6992	LID ASSY	1

SYMBOL	PARTS NO	DESCRIPTION	QTY
*** KNOBS & PUSH BUTTONS ***			
	④ 24GS4651	PUSH BUTTON(6P)	1
	⑤ 24G02391	PUSH BUTTON(13P)	
*** PRINTED & PACKING MATERIALS ***			
	24MS7351	FILLER T,CARTON	1
	24MS7362	FILLER B,CARTON	1
	24MS7372	CARTON BOX	1
	24806961	BAG,POLYETHYLENE(270*370)	1
	24830762	BAG,PROTECTION.	1
	78057461	INSTRUCTION BOOK ST-6350	1
*** RESISTORS ***			
R1110 R1114 R1119 R1124 R1129	401C6669	R,CARBON 680H 5% 1/4W	5
R101	401C6673	R,CARBON 1.0K 5% 1/4W	1
R603	401H5625	R,CARBON 10H 5% 1/2W	1
R411	401H5645	R,CARBON 68H 5% 1/2W	1
R349	401H5649	R,CARBON 100H 5% 1/2W	1
R6001 R6002	401H5659	R,CARBON 270H 5% 1/2W	2
R421	401H5667	R,CARBON 560H 5% 1/2W	1
R453	401H5673	R,CARBON 1.0K 5% 1/2W	1
R904 R905 R906	401H5683	R,CARBON 2.7K 5% 1/2W	3
R519	401H5689	R,CARBON 4.7K 5% 1/2W	1
R918	401H5737	R,CARBON 470K 5% 1/2W	1
R602A	401H5745	R,CARBON 1.0M 5% 1/2W	1
R721	401K5613	R,CARBON 3.3H 5% 1/6W	1
R333 R4102	401K5633	R,CARBON 22H 5% 1/6W	2
R223 R229	401K5637	R,CARBON 33H 5% 1/6W	2
R874	401K5639	R,CARBON 39H 5% 1/6W	1
R222	401K5643	R,CARBON 56H 5% 1/6W	1
R801 R828	401K5646	R,CARBON 75H 5% 1/6W	2
R1115 R365 R366 R754 R758 R759 R910	401K5649	R,CARBON 100H 5% 1/6W	7

SYMBOL	PARTS NO	DESCRIPTION	QTY
R326 R330	401K5651	R,CARBON 120H 5% 1/6W	2
R1105 R1117 R356 R371 R372 R373 R907 R908 R909	401K5653	R,CARBON 150H 5% 1/6W	9
R412 R701	401K5655	R,CARBON 180H 5% 1/6W	2
R4106 R713 R714 R716	401K5657	R,CARBON 220H 5% 1/6W	4
R1103 R218	401K5659	R,CARBON 270H 5% 1/6W	2
R228 R305 R306 R516 R518 R781 R782 R783	401K5661	R,CARBON 330H 5% 1/6W	8
R201 R214 R761 R784 R806	401K5663	R,CARBON 390H 5% 1/6W	5
R517 R821	401K5665	R,CARBON 470H 5% 1/6W	2
R321 R322 R351 R352 R359 R360 R391 R394 R827	401K5667	R,CARBON 560H 5% 1/6W	9
R219 R657	401K5669	R,CARBON 680H 5% 1/6W	2
R1019 R1020 R1021 R1022 R1023 R1024 R1025 R1026 R1027 R1033 R1130 R207 R220 R307 R309 R357 R393 R396	401K5673	R,CARBON 1.0K 5% 1/6W	35
R4101 R475 R503 R507 R702 R705 R768 R803 R804 R811 R819 R822 R824 R826 R853 R861 R864	401K5673	R,CARBON 1.0K 5% 1/6W	35
R1036 R209 R216 R217 R221 R226 R323 R655 R767	401K5677	R,CARBON 1.5K 5% 1/6W	9
R1035 R1128 R1134 R206 R607	401K5679	R,CARBON 1.8K 5% 1/6W	5
R1012 R1014 R1135 R202 R212 R311 R4105 R477 R510 R658 R661 R762 R833	401K5681	R,CARBON 2.2K 5% 1/6W	13
R301 R415 R483 R506 R609 R856 R911 R912 R913	401K5683	R,CARBON 2.7K 5% 1/6W	9
R407 R454 R508 R529 R703 R717 R718 R719 R876	401K5685	R,CARBON 3.3K 5% 1/6W	9
R478 R482 R802 R818	401K5687	R,CARBON 3.9K 5% 1/6W	4
R1029 R1116 R1118	401K5689	R,CARBON 4.7K 5% 1/6W	17

SYMBOL			PARTS NO	DESCRIPTION	QTY
R1137	R328	R331			
R363	R364	R481			
R511	R525	R608			
R654	R764	R815			
R817	R855				
R1030	R227	R324	401K5691	R,CARBON 5.6K 5% 1/6W	7
R353	R354	R807			
R812					
R457	R471	R502	401K5693	R,CARBON 6.8K 5% 1/6W	6
R520	R534	R706			
R1001	R1002	R1006	401K5697	R,CARBON 10K 5% 1/6W	58
R1009	R1010	R1011			
R1017	R1028	R1031			
R1032	R1037	R1038			
R1039	R1040	R1101			
R1102	R1104	R1106			
R1107	R1108	R1109			
R1111	R1112	R1113			
R1120	R1121	R1122			
R1123	R1125	R1126			
R1127	R1132	R312			
R313	R316	R317			
R341	R342	R369			
R370	R401	R402			
R403	R404	R474			
R656	R662	R712			
R808	R813	R814			
R825	R832	R838			
R839	R859	R860			
R875					
R505	R513	R837	401K5699	R,CARBON 12K 5% 1/6W	3
R1003	R1004	R1005	401K5701	R,CARBON 15K 5% 1/6W	9
R1015	R208	R325			
R451	R452	R704			
R361	R362	R480	401K5703	R,CARBON 18K 5% 1/6W	4
R823					
R1034	R527	R872	401K5705	R,CARBON 22K 5% 1/6W	4
R877					
R1133	R308	R310	401K5707	R,CARBON 27K 5% 1/6W	8
R406	R753	R763			
R766	R852				
R1008	R1131	R303	401K5709	R,CARBON 33K 5% 1/6W	10
R409	R501	R514			
R709	R752	R831			
R834					
R476	R858	R862	401K5711	R,CARBON 39K 5% 1/6W	4
R865					
R1136	R314	R315	401K5713	R,CARBON 47K 5% 1/6W	9

SYMBOL			PARTS NO	DESCRIPTION	QTY
R318	R512	R711			
R863	R866	R871			
R1016	R479	R707	401K5715	R,CARBON 56K 5% 1/6W	3
R1013	R203	R504	401K5717	R,CARBON 68K 5% 1/6W	5
R526	R708				
R472	R854		401K5719	R,CARBON 82K 5% 1/6W	2
R343	R344	R345	401K5721	R,CARBON 100K 5% 1/6W	21
R346	R381	R382			
R383	R384	R385			
R386	R392	R395			
R4104	R513B	R751			
R769	R816	R829			
R851	R857	R873			
R204			401K5725	R,CARBON 150K 5% 1/6W	1
R230	R327	R452B	401K5729	R,CARBON 220K 5% 1/6W	6
R473	R722	R757			
R756			401K5737	R,CARBON 470K 5% 1/6W	1
R211	R302		401K5739	R,CARBON 560K 5% 1/6W	2
R332			401K5745	R,CARBON 1.0M 5% 1/6W	1
R329			401K5747	R,CARBON 1.2M 5% 1/6W	1
R397B	R398B		40136229	R,CARBON 22CK 5% 1/4W	2
⚠R528			40177173	R,CARBON 1.0K 5% 1/4W	1
⚠R523			40178101	R,CARBON 1.0H 5% 1/2W	1
⚠R601			40216004	R,WIRE 4.7H 10% 5W	1
R458			40371109	R,METAL 2.2H 5% 1W	1
R651			40371151	R,METAL 120H 5% 1W	1
R659			40371155	R,METAL 180H 5% 1W	1
R535			40371185	R,METAL 3.3K 5% 1W	1
R611	R611B		40372105	R,METAL 1.5H 5% 2W	2
R919			40372107	R,METAL 1.8H 5% 2W	1
R484			40372125	R,METAL 10H 5% 2W	1
R605			40372141	R,METAL 47H 5% 2W	1
R612			40372153	R,METAL 150H 5% 2W	1
R521			40372189	R,METAL 4.7K 5% 2W	1
R509			40372195	R,METAL 8.2K 5% 2W	1
R1007	R901	R902	40372201	R,METAL 15K 5% 2W	4
R903					
R604A	R604B		40372213	R,METAL 47K 5% 2W	2
⚠R2001	R355	R355B	40405109	R,METAL 2.2H 5% 1/4W	9
⚠R367	⚠R368	⚠R522			
⚠R524	⚠R652	⚠R653			
⚠R320			40405125	R,METAL 10H 5% 1/4W	1
⚠R213	R304	⚠R334	40405133	R,METAL 22H 5% 1/4W	3
R606			40499002	R,METAL 1.0H 5% 2W	1

SYMBOL	PARTS NO	DESCRIPTION	QTY

*** CAPACITORS ***

C222	C227		420A9517	C,CERAMIC 50V 2200PF	2
C513	C522		420C9560	C,CERAMIC 500V 560PF	2
C527			420C9563	C,CERAMIC 500V 0.001UF	1
C517	C524		420C9567	C,CERAMIC 500V 2200PF	2
C514			4203J575	C,CERAMIC 500V 0.01UF	1
C622	C905		42034713	C,CERAMIC 2KV 0.001UF	2
△C605	△C606	△C607	42051113	C,CERAMIC 500V 4700PF	3
△C602	△C603		42054C05	C,CERAMIC 400V 220PF	2
△C626			42054009	C,CERAMIC 400V 470PF	1
C591			42074755	C,CERAMIC 2KV 220PF	1
C621			4209J059	C,CERAMIC 2KV 560PF	1
C615			42099065	C,CERAMIC 125V 0.01UF	1
C614			42099084	C,CERAMIC 1KV 1000PF	1
C1033			421C0207	C,CERAMIC 50V 330PF	1
C902			421C0209	C,CERAMIC 50V 470PF	1
C781	C782		421C0212	C,CERAMIC 50V 820PF	2
C415	C901		421C0213	C,CERAMIC 50V 1000PF	2
C903			421C0215	C,CERAMIC 50V 1500PF	1
C211	C304	C359	421C0225	C,CERAMIC 50V 0.01UF	5
C360	C710				
C202	C203	C204	421C1025	C,CERAMIC 25V 0.01UF	17
C207	C208	C221			
C223	C301	C302			
C715	C752	C757			
C758	C760	C762			
C764	C766				
C1006	C1015	C156	421J9C01	C,CERAMIC 50V 0.1UF	10
C160	C329	C378			
C526	C652	C653			
C755					
C216			423A1C33	C,CERAMIC 50V 33PF	1
C1010			423A1C41	C,CERAMIC 50V 68PF	1
C1017	C761		423A1045	C,CERAMIC 50V 100PF	2
C1035	C457		423A1053	C,CERAMIC 50V 220PF	2
C323	C530		423A1C55	C,CERAMIC 50V 270PF	2
C510E	C511	C701	423A11C1	C,CERAMIC 50V 470PF	3
C213	C214		423A2C03	C,CERAMIC 50V 3PF	2
C232			423A2C11	C,CERAMIC 50V 6PF	1
C319	C320		423A2023	C,CERAMIC 50V 12PF	2
C769			423A2027	C,CERAMIC 50V 18PF	1
C1001	C455		423A2033	C,CERAMIC 50V 33PF	2
C1002	C1005		423A2C35	C,CERAMIC 50V 39PF	2

SYMBOL	PARTS NO	DESCRIPTION	QTY

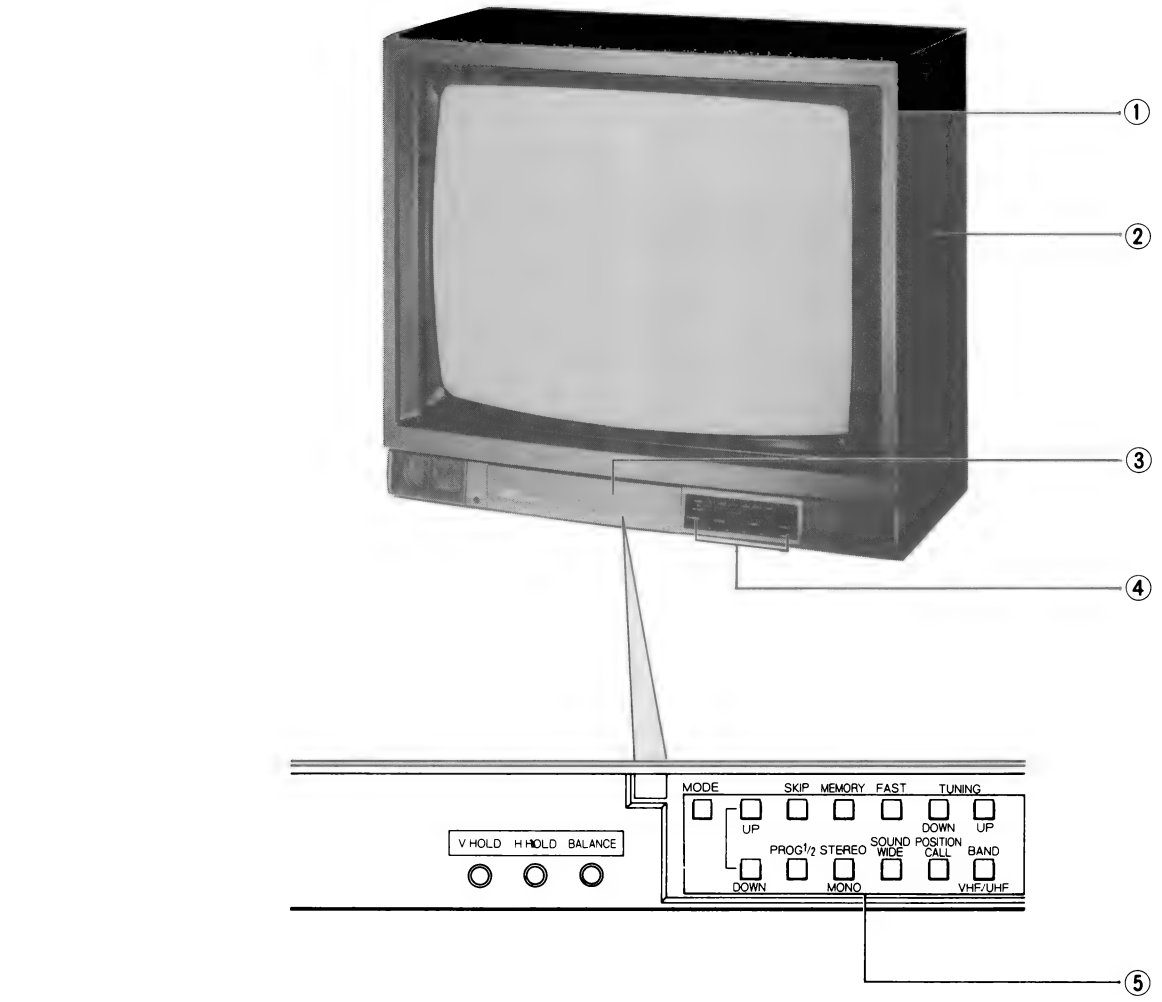
C707	C759	C767	423A2C37	C,CERAMIC 50V 47PF	4
C768					
C751	C921		423A2C39	C,CERAMIC 50V 56PF	2
C703			423A2C41	C,CERAMIC 50V 68PF	1
C1104	C225	C309	423A2C45	C,CERAMIC 50V 100PF	7
C311	C363	C364			
C813					
C1004			42332033	C,CERAMIC 50V 33PF	1
C1011			427F4001	C,FILM 50V 1000PF	1
C802			427F4006	C,FILM 50V 2700PF	1
C4104			427F4C07	C,FILM 50V 3300PF	1
C336	C456		427F4C10	C,FILM 50V 5600PF	2
C852			427F4011	C,FILM 50V 6800PF	1
C1013	C322	C420	427F4C13	C,FILM 50V 0.01UF	4
C509					
C321	C410		427F4C17	C,FILM 50V 0.022UF	2
C508			427F4C19	C,FILM 50V 0.033UF	1
C308	C310	C326	427F4C21	C,FILM 50V 0.047UF	3
C339	C340		427F4C22	C,FILM 50V 0.056UF	2
C1012	C325	C343	427F4C23	C,FILM 50V 0.068UF	5
C406	C865				
C1008	C332	C333	427F4C25	C,FILM 50V 0.1UF	7
C334	C335	C753			
C754					
C367	C368		427F4C53	C,FILM 50V 1500PF	2
C1031			427F4C57	C,FILM 50V 3300PF	1
C507	C528		427F4C59	C,FILM 50V 4700PF	2
C1032			427F4C60	C,FILM 50V 5600PF	1
C403	C404	C407	427F4C69	C,FILM 50V 0.033UF	3
C401			427F4C71	C,FILM 50V 0.047UF	1
C372	C373		427F4C75	C,FILM 50V 0.1UF	2
C324	C504		427J9C58	C,FILM 100V 5600PF	2
C418			42703663	C,FILM 400V 0.01UF	1
C516E			42703671	C,FILM 400V 0.047UF	1
C612			4276DC71	C,FILM 50V 0.047UF	1
C1009			4276DC77	C,FILM 50V 0.15UF	1
△C601			42802024	C,METAL FILM 300V 0.082UF	1
△C516			42808601	C,FILM 1600V 1250PF	1
C462	C463		4282CC17	C,METAL FILM 50V 0.2U	2
C408			4282CC25	C,METAL FILM 50V 1UF	1

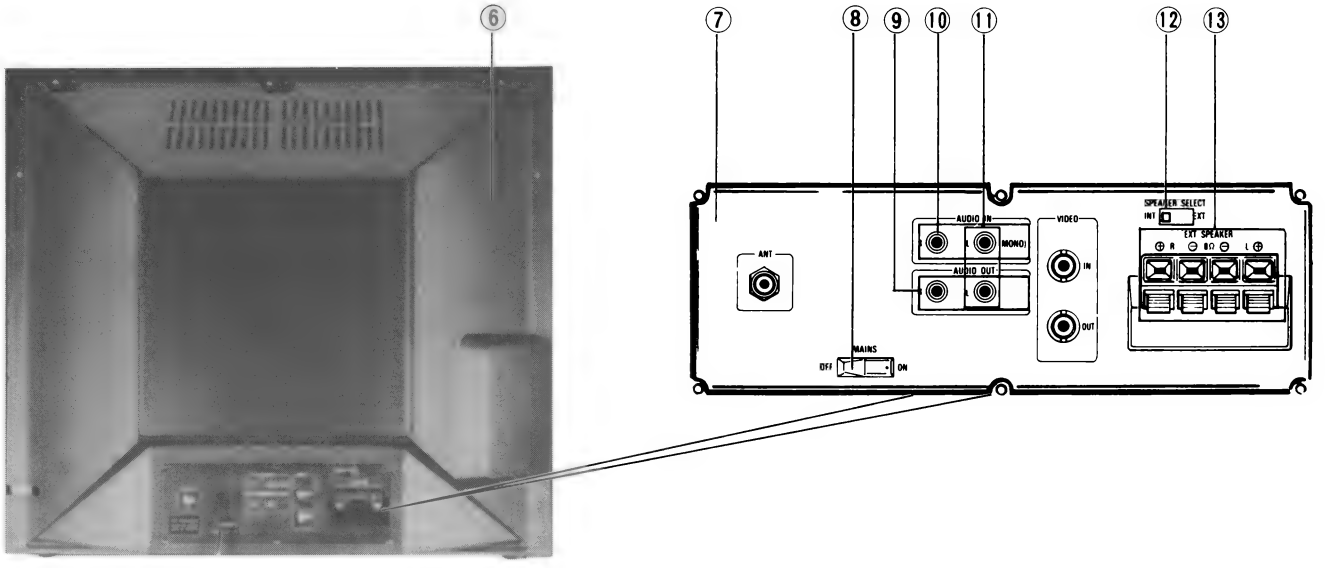
SYMBOL	PARTS NO	DESCRIPTION	QTY
C529	42899C53	C,METAL FILM 400V 0.51UF	1
C163 C303 C353	430A4101	C,ELEC 50V C.22UF	6
C354 C402 C708			
C209	430A4103	C,ELEC 50V C.47UF	1
C503 C756	430A4105	C,ELEC 50V 1UF	2
C327 C328 C506	430A4107	C,ELEC 50V 2.2UF	3
C1101	430A9017	C,ELEC 10V 220UF	1
C812	430A9C20	C,ELEC 10V 1000UF	1
C1018 C162 C312	430A9C25	C.ELEC 16V 10UF	20
C313 C314 C315			
C316 C317 C318			
C341 C342 C351			
C381 C382 C391			
C392 C704 C706			
C851 C859			
C853	430A9C26	C.ELEC 16V 22UF	1
C306 C702 C804	43CA9C28	C,ELEC 16V 47UF	3
C1007 C1020 C161	430A9C29	C,ELEC 16V 100UF	8
C4107 C501 C654			
C725 C863			
C155 C212 C465	430A9C30	C,ELEC 16V 220UF	3
C337 C338 C346	430A9032	C,ELEC 16V 470UF	8
C374 C375 C523			
C711 C811			
C201 C451 C452	430A9037	C,ELEC 25V 4.7UF	3
C369 C370	430A9041	C.ELEC 25V 47UF	2
C365 C366 C371	430A9042	C,ELEC 25V 100UF	3
C453 C466 C521	430A9C54	C,ELEC 35V 100UF	3
C307 C854	430A9060	C,ELEC 50V C.47UF	2
C206 C331 C356	430A9061	C,ELEC 50V 1UF	8
C383 C384 C385			
C857 C858			
C452B C864	430A9062	C.ELEC 50V 2.2UF	2
C357 C358 C5C2	430A9C63	C,ELEC 50V 3.3UF	3
C2001 C709	430A9064	C,ELEC 50V 4.7UF	2
C656	430A9065	C,ELEC 50V 10UF	1
C464	430B5089	C,ELEC 35V 47UF	1
C157 C330 C355	4301J033	C,ELEC 16V 1000UF	3
C458	4301J046	C,ELEC 25V 1000UF	1
C651	4301J056	C,ELEC 35V 330UF	1
C377 C624	4301J058	C,ELEC 35V 1000UF	2
C655	4301J069	C.ELEC 50V 100UF	1

SYMBOL	PARTS NO	DESCRIPTION	QTY
C1003	43019025	C.ELEC 16V 10UF	1
C409	43019034	C,ELEC 16V 2200UF	1
C454	4302F059	C,ELEC 35V 2200UF	1
C4101 C4103	4302H043	C,ELEC 16V 10UF	2
C4102	43027041	C,ELEC 16V 4.7UF	1
C518	4309J021	C,ELEC 160V 3.3UF	1
C519 C611	4309J040	C.ELEC 16CV 10UF	2
C623	4309JC64	C.ELEC 160V 100UF	1
⚠C608	43104071	C.ELEC 400V 100UF	1
C806	433A3026	C,ELEC 16V 100UF	1
C855 C856	433A3C33	C,ELEC 25V 10UF	2
C763	433A3C43	C,ELEC 35V 4.7UF	1
C512	433A3055	C,ELEC 50V 1UF	1
C411	433A3C56	C,ELEC 50V 2.2UF	1
C801	4331C027	C.ELEC 16V 220UF	1
C467	43312C11	C,ELEC 50V 6.8UF	1
C803	43314016	C,ELEC 10V 330UF	1
C4105	43515C65	C,TANTALUM 35V C.1UF	1

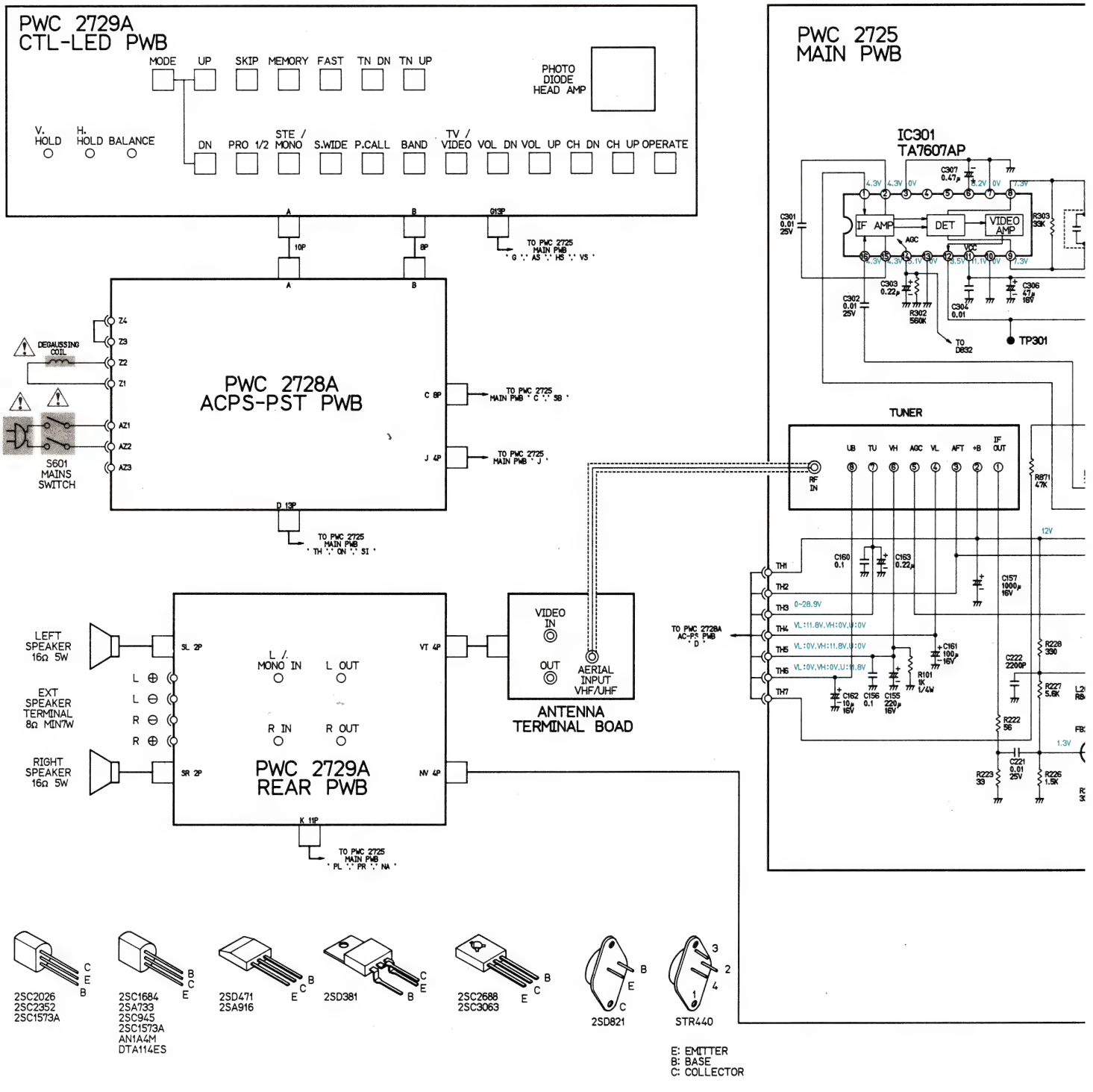
*** PIN JACKS ***

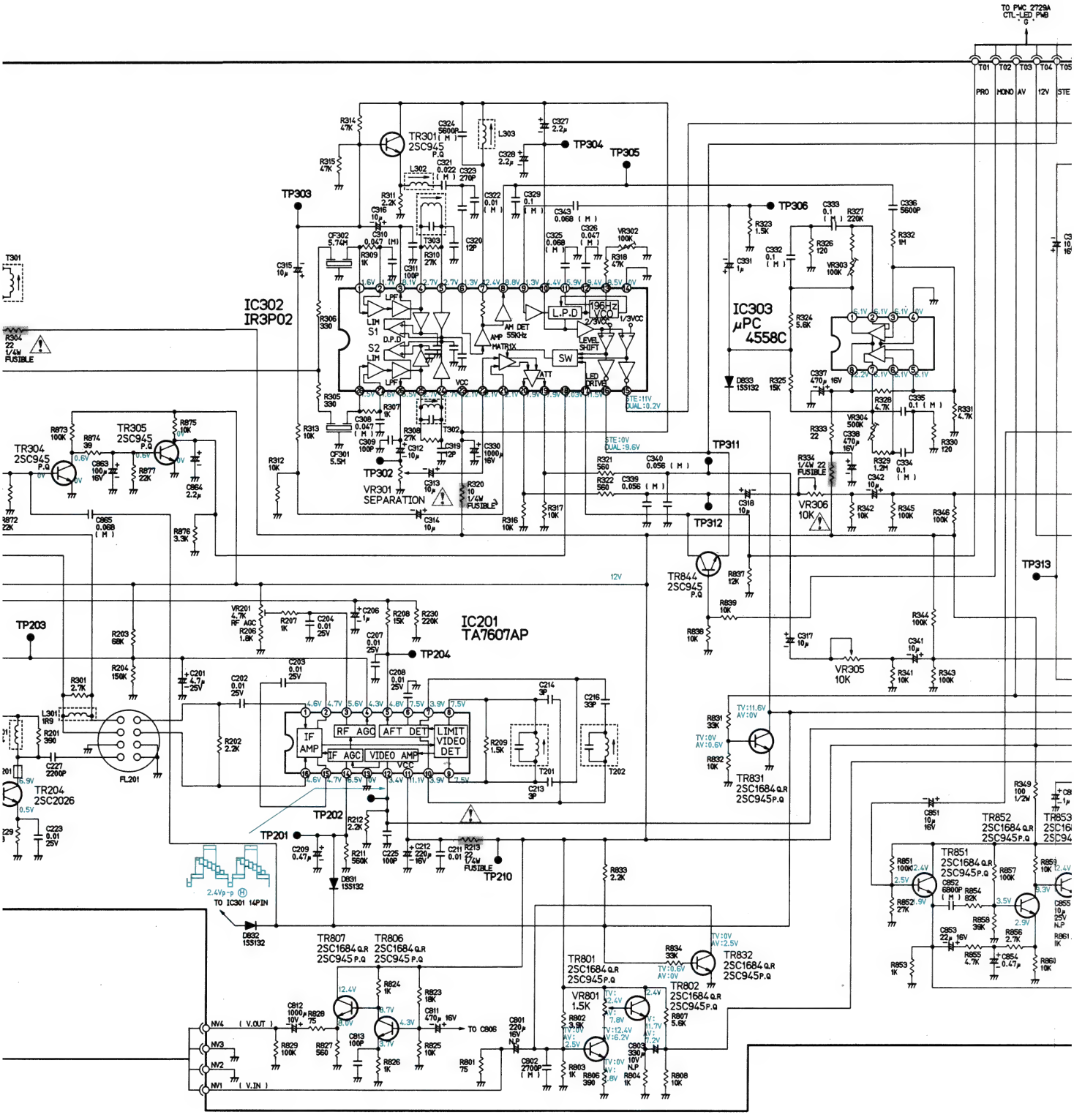
	⑩70051120	PIN JACK	1
	⑪70051121	PIN JACK	2
	⑨70051124	PIN JACK	1

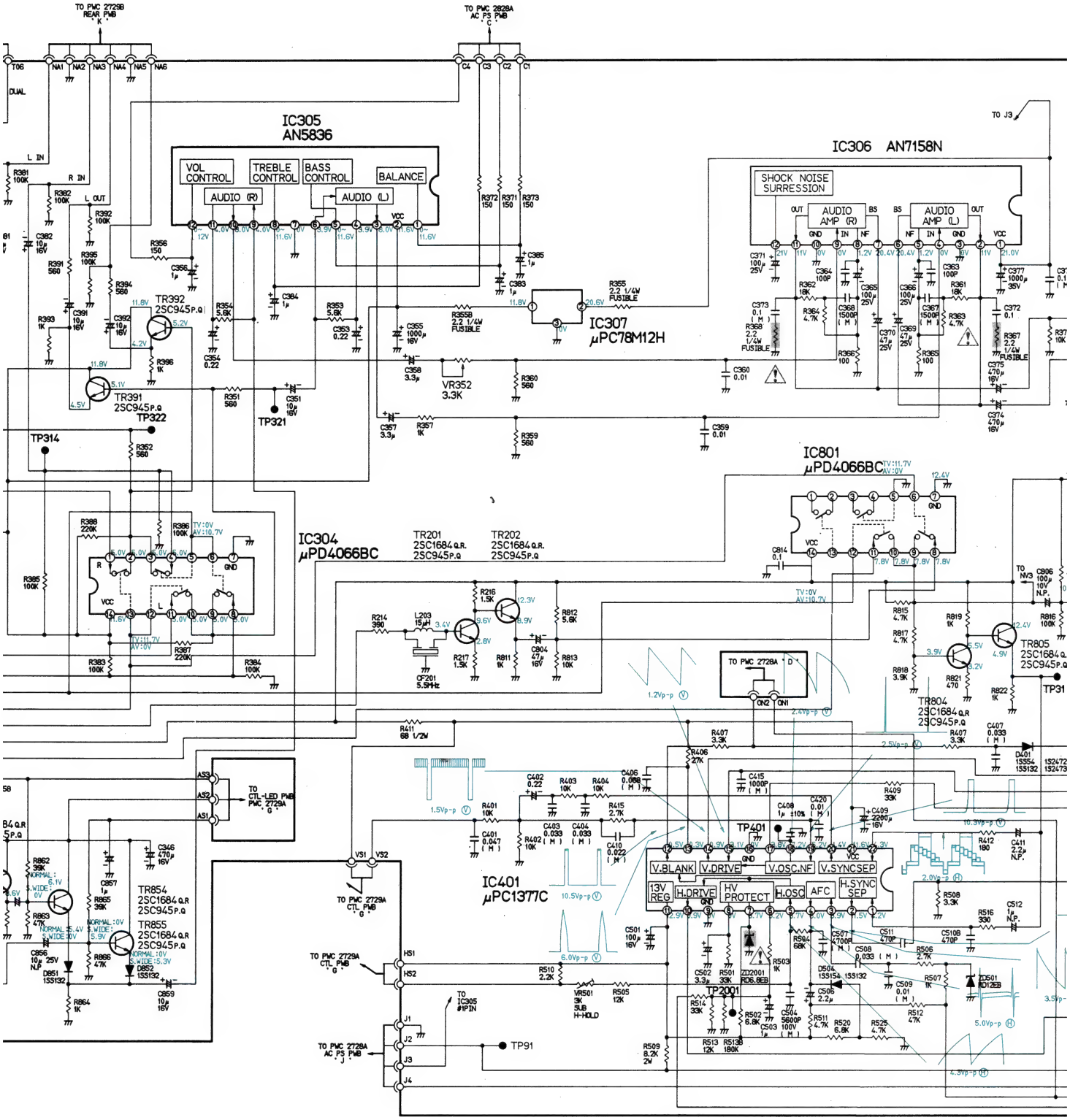

①
②
③
④
⑤
MODE
SKIP
MEMORY
FAST
TUNING
UP
DOWN
UP
V HOLD
H HOLD
BALANCE
PROG 1/2
STEREO
SOUND WIDE
POSITION CALL
BAND
DOWN
MONO
VHF/UHF

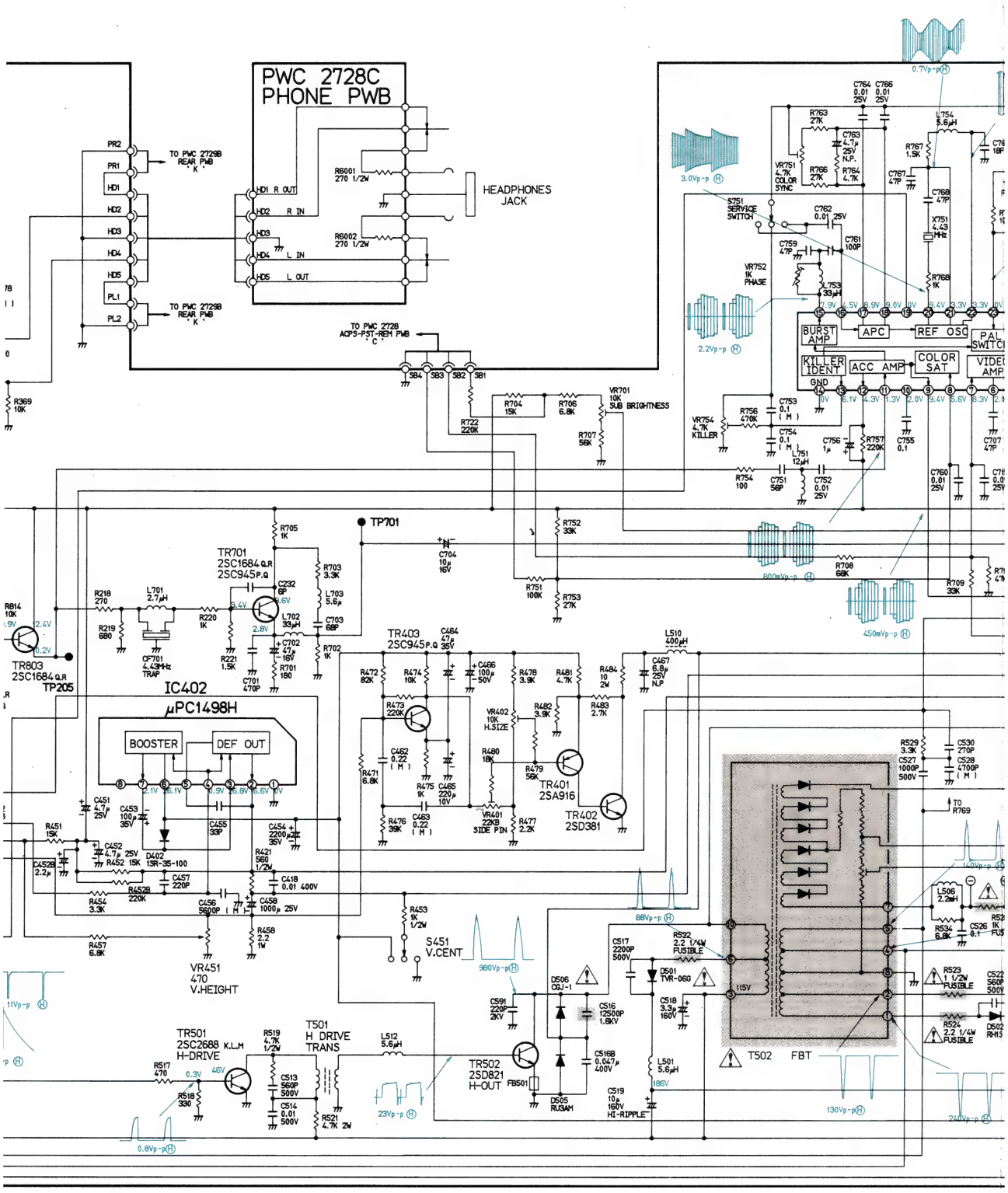

⑥
⑦
⑧
⑨
⑩
⑪
⑫
⑬
ANT
AUDIO IN
MONO
AUDIO OUT
VIDEO
IN
OUT
MAINS
OFF
ON
SPEAKER SELECT
INT
EXT
EXT SPEAKER

MODEL ST-6350
SCHEMATIC DIAGRAM

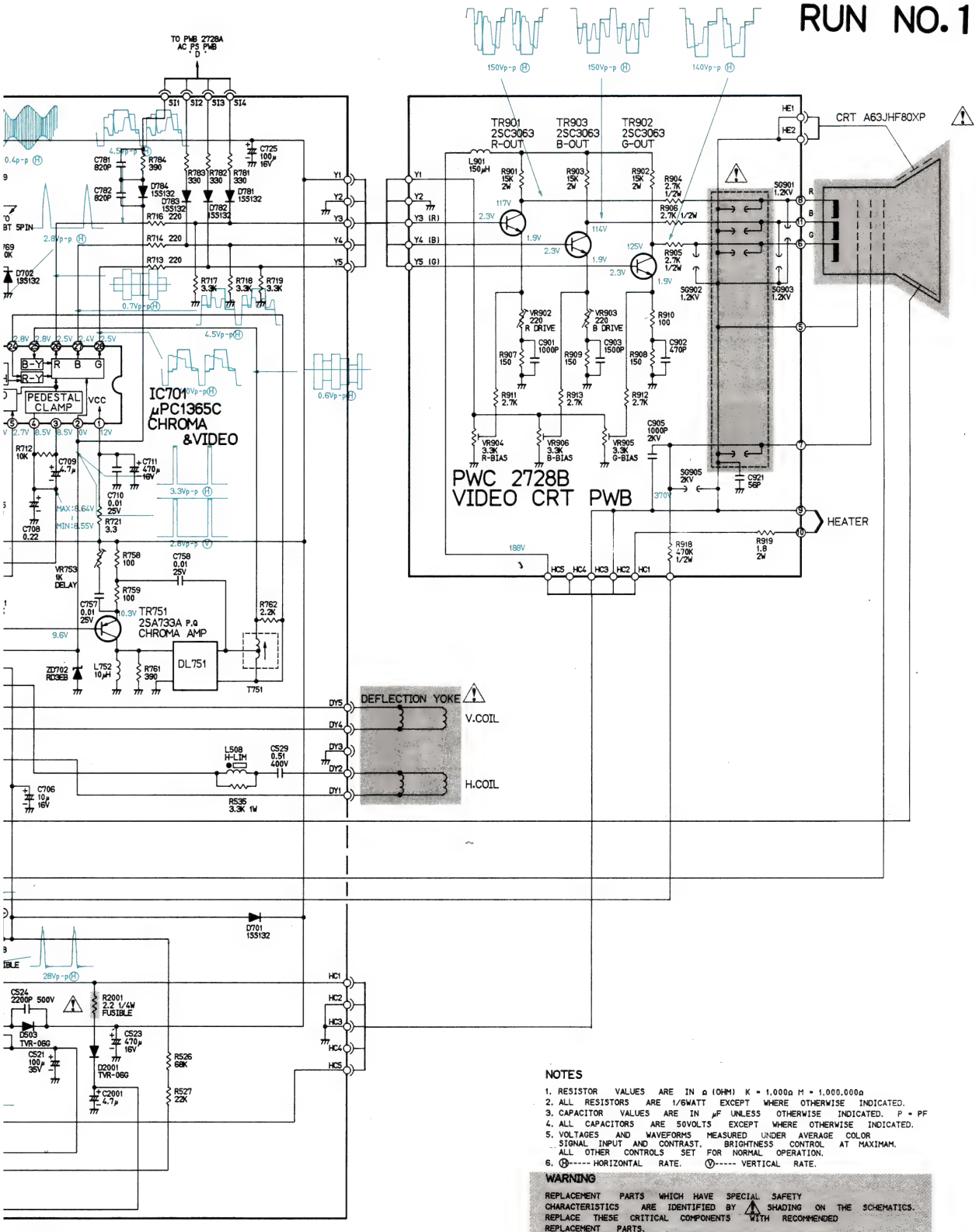



TO PMC 2729A CTL-LED PWB
T01 T02 T03 T04 T05
PRO MONO AV 12V STE
IC302 IR3P02
IC303 μPC 4558C
IC201 TA7607AP
TR301 2SC945 P,Q
TR304 2SC945 P,Q
TR305 2SC945 P,Q
TR204 2SC2026
TR844 2SC945 P,Q
TR831 2SC1684 Q,R 2SC945P,Q
TR832 2SC1684 Q,R 2SC945P,Q
TR851 2SC1684 Q,R 2SC945P,Q
TR852 2SC1684 Q,R 2SC945P,Q
TR853 2SC1684 Q,R 2SC945P,Q
TR801 2SC1684 Q,R 2SC945P,Q
TR802 2SC1684 Q,R 2SC945P,Q
TR806 2SC1684 Q,R 2SC945P,Q
TR807 2SC1684 Q,R 2SC945P,Q
VR301 SEPARATION
VR303 100K
VR304 500K
VR305 10K
VR306 10K
VR801 1.5K
TP201
TP202
TP203
TP204
TP210
TP302
TP303
TP304
TP305
TP306
TP311
TP312
TP313
TO IC301 14PIN
TO C806
V.OUT
V.IN
IF AMP
RF AGC
AFT DET
LIMIT VIDEO DET
IF AGC
VIDEO AMP
L.P.D
VCO
SW
LPF
BPF
AM DET 55KHz
MATRIX
ATT
LED DRIVE
LEVEL SHIFT
FL201
OF301 5.5M
OF302 5.74M
12V


IC305
AN5836
VOL CONTROL
TREBLE CONTROL
BASS CONTROL
BALANCE
AUDIO (R)
AUDIO (L)
IC306 AN7158N
SHOCK NOISE SURRESSION
AUDIO AMP (R)
AUDIO AMP (L)
IC307
μPC78M12H
VR352
3.3K
TR392
2SC945P.Q
TR391
2SC945P.Q
TP322
TP321
TP314
IC304
μPD4066BC
TR201
2SC1684 Q.R.
2SC945P.Q
TR202
2SC1684 Q.R.
2SC945P.Q
IC801
μPD4066BC
TR805
2SC1684 Q.
2SC945P.Q
TP31
TR804
2SC1684 Q.R
2SC945P.Q
IC401
μPC1377C
V.BLANK
V.DRIVE
V.OSC.NF
V.SYNCSEP
13V REG
H.DRIVE
HV PROTECT
H.OSC
AFC
H.SYNC SEP
TP401
TP2001
TR854
2SC1684 Q.R
2SC945P.Q
TR855
2SC1684 Q.R
2SC945P.Q
TP91
TO PWC 2729B REAR PWB 'K'
TO PWC 2828A AC P3 PWB 'C'
TO J3
TO CTL-LED PWB PWC 2729A 'G'
TO PWC 2729A CTL PWB 'G'
TO PWC 2729A CTL PWB 'G'
TO IC305 #PIN
TO PWC 2728A AC P3 PWB 'J'
TO PWC 2728A 'D'
TO NV3
L IN
R IN
L OUT
DUAL


PWC 2728C
PHONE PWB
HEADPHONES JACK
TO PWC 2729B REAR PWB 'K'
TO PWC 2728 ACPS-PST-REM PWB 'C'
IC402
μPC1498H
BOOSTER
DEF OUT
TR701 2SC1684 Q,R 2SC945P,Q
TR803 2SC1684 Q,R
TR403 2SC945P,Q
TR401 2SA916
TR402 2SD381
TR501 2SC2688 K,L,M H-DRIVE
TR502 2SD821 H-OUT
T501 H DRIVE TRANS
T502 FBT
S451 V.CENT
VR451 470 V.HEIGHT
VR701 10K SUB BRIGHTNESS
VR751 4.7K COLOR SYNC
VR752 1K PHASE
VR754 4.7K KILLER
VR401 22KB SIDE PIN
VR402 10K H.SIZE
S751 SERVICE SWITCH
X751 4.43 MHz
BURST AMP
APC
REF OSC
PAL SWITCH
KILLER IDENT
ACC AMP
COLOR SAT
VIDEO AMP
TP701
TP205
CF701 4.43MHz TRAP
D402 1SR-35-100
D501 TVR-06G
D502 RH1S
D505 RU3AM
D506 G3J-1
FB501
0.7Vp-p(H)
3.0Vp-p(H)
2.2Vp-p(H)
600mVp-p(H)
450mVp-p(H)
68Vp-p(H)
980Vp-p(H)
23Vp-p(H)
0.8Vp-p(H)
130Vp-p(H)
240Vp-p(H)
115V
186V

RUN NO. 1



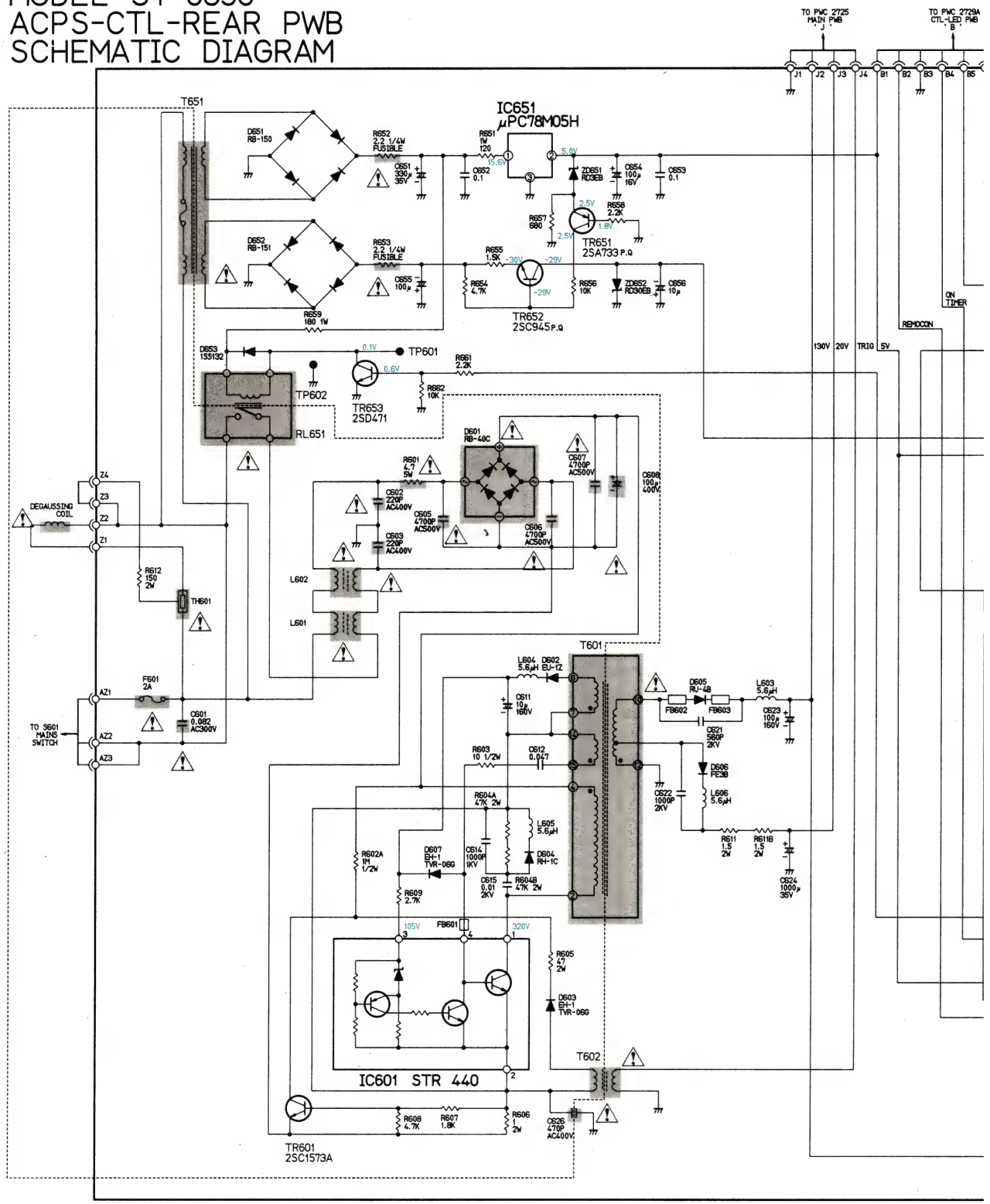
NOTES

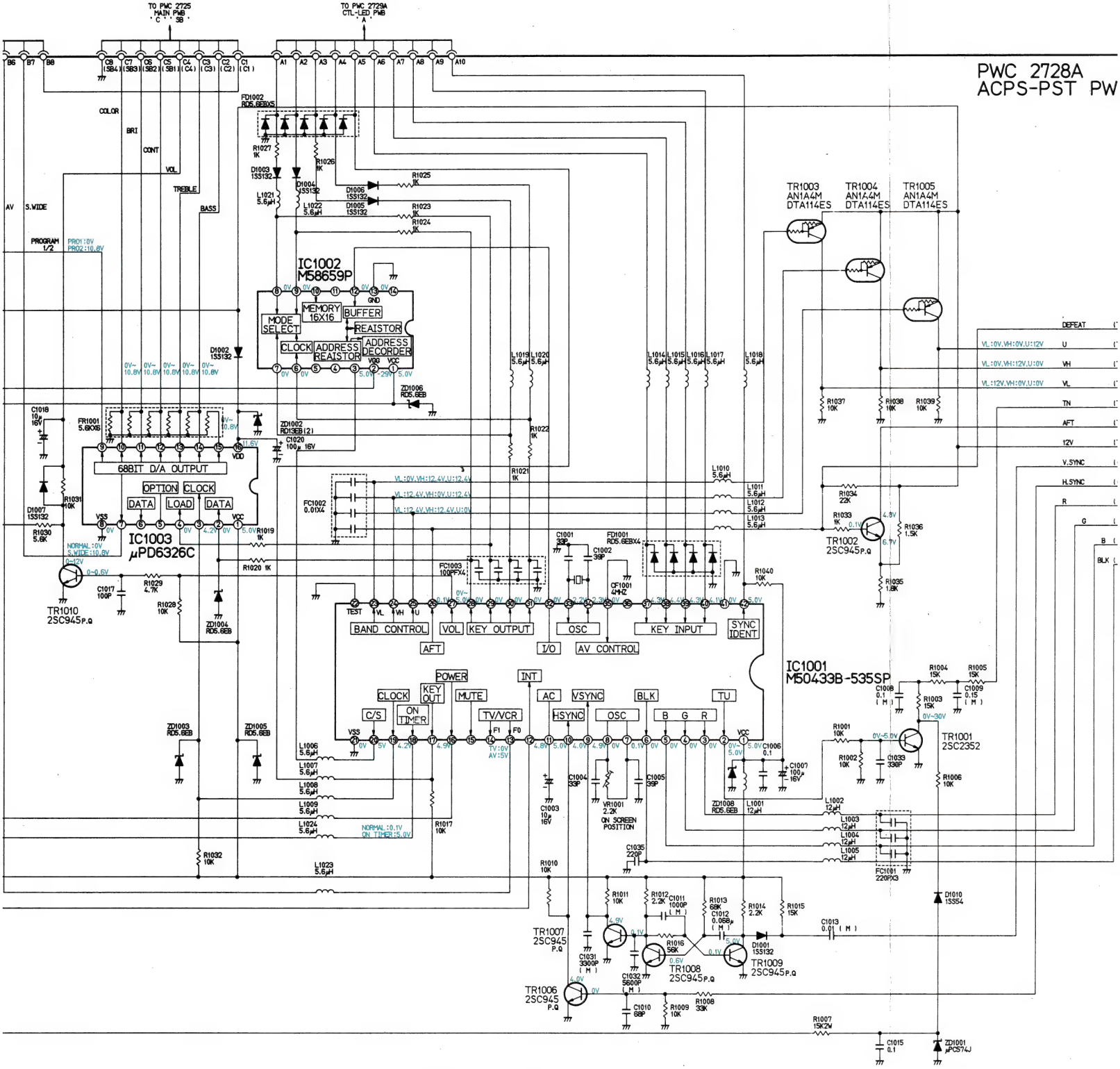
1. RESISTOR VALUES ARE IN Ω (OHM) K = 1,000Ω M = 1,000,000Ω
2. ALL RESISTORS ARE 1/6WATT EXCEPT WHERE OTHERWISE INDICATED.
3. CAPACITOR VALUES ARE IN μF UNLESS OTHERWISE INDICATED. P = PF
4. ALL CAPACITORS ARE 50VOLTS EXCEPT WHERE OTHERWISE INDICATED.
5. VOLTAGES AND WAVEFORMS MEASURED UNDER AVERAGE COLOR SIGNAL INPUT AND CONTRAST, BRIGHTNESS CONTROL AT MAXIMAM. ALL OTHER CONTROLS SET FOR NORMAL OPERATION.
6. Ⓗ----- HORIZONTAL RATE. Ⓥ----- VERTICAL RATE.

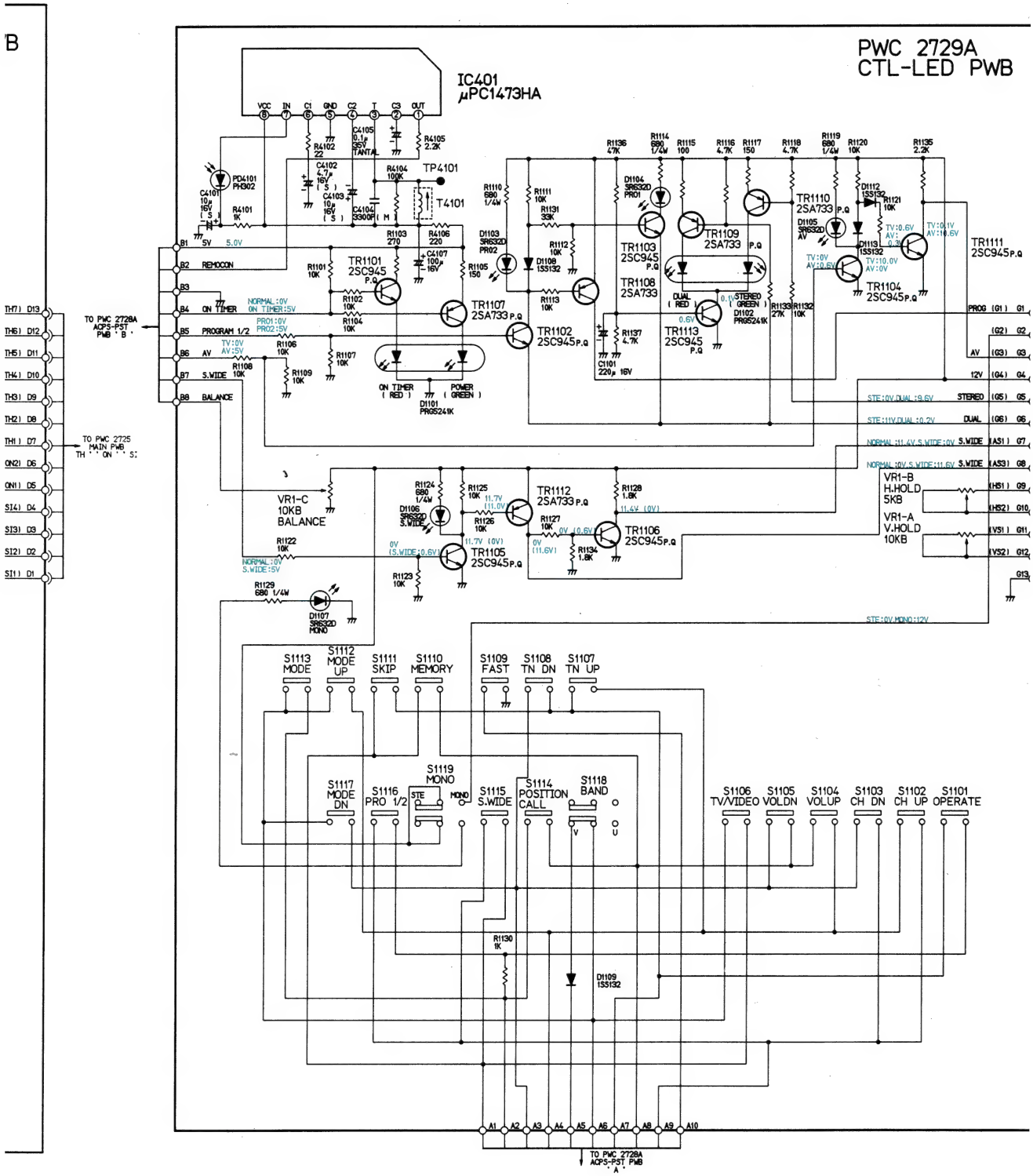
WARNING

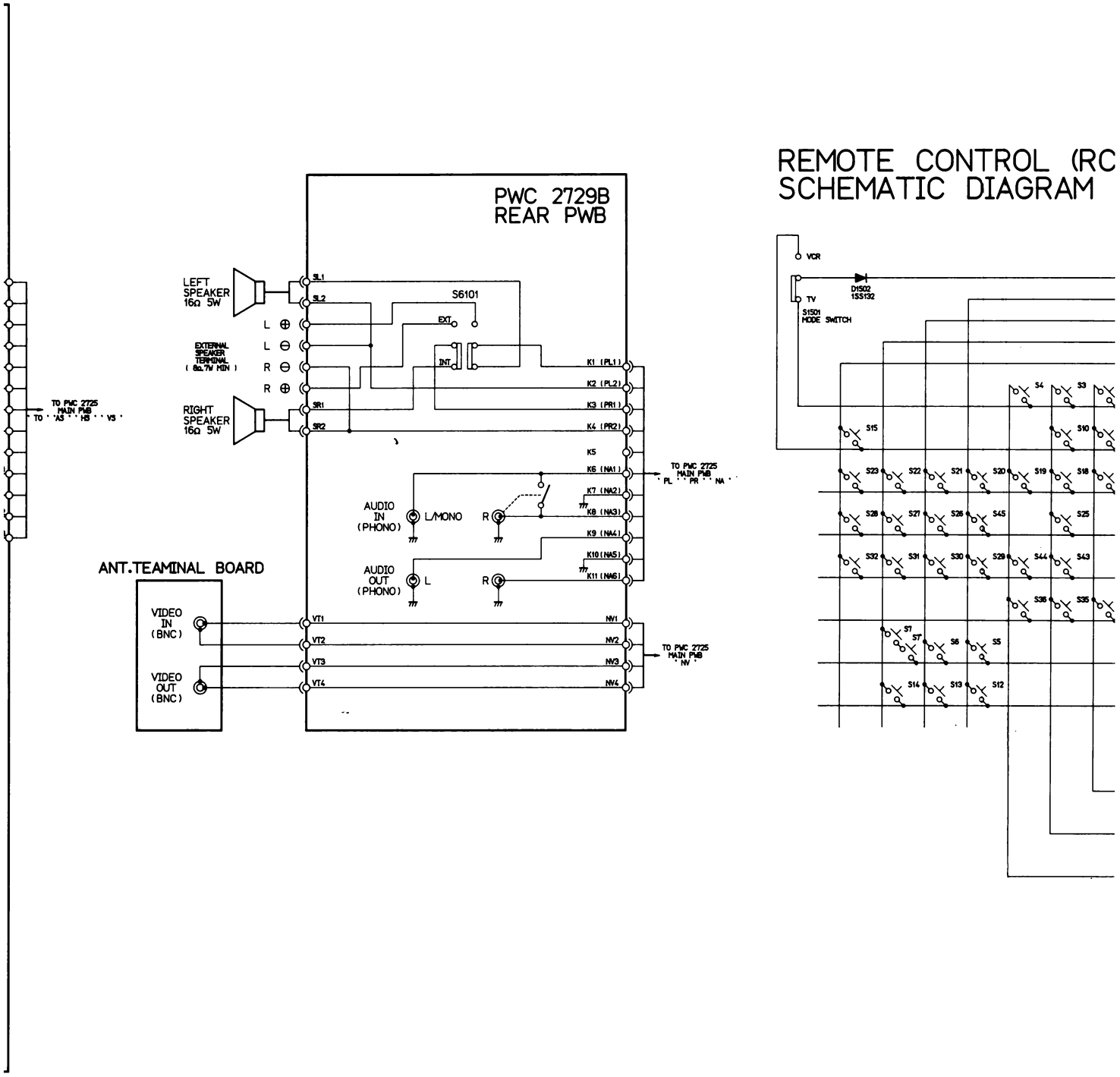
REPLACEMENT PARTS WHICH HAVE SPECIAL SAFETY CHARACTERISTICS ARE IDENTIFIED BY ⚠ SHADING ON THE SCHEMATICS. REPLACE THESE CRITICAL COMPONENTS WITH RECOMMENDED REPLACEMENT PARTS.
DON'T DEGRADE THE SAFETY OF THE SET THROUGH INPROPER SERVICING.

MODEL ST-6350
ACPS-CTL-REAR PWB
SCHEMATIC DIAGRAM



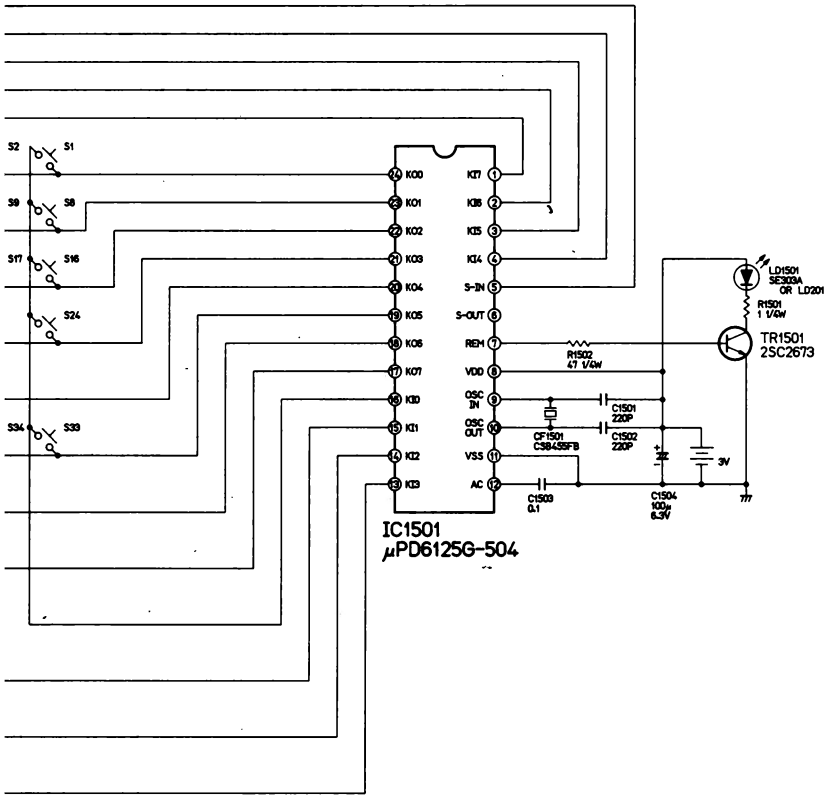

PWC 2728A
ACPS-PST PW
TO PWC 2725
MAIN PWB
TO PWC 2729A
CTL-LED PWB
IC1002
M58659P
MODE SELECT
MEMORY 16X16
BUFFER
REAISTOR
CLOCK
ADDRESS REAISTOR
ADDRESS DECORDER
IC1003
μPD6326C
68BIT D/A OUTPUT
OPTION
CLOCK
DATA
LOAD
DATA
IC1001
M50433B-535SP
BAND CONTROL
VOL
KEY OUTPUT
OSC
KEY INPUT
SYNC IDENT
AFT
I/O
AV CONTROL
POWER
CLOCK
KEY OUT
MUTE
INT
AC
VSYNC
BLK
TU
C/S
ON TIMER
TV/VCR
HSYNC
OSC
B G R
TR1003 AN1A4M DTA114ES
TR1004 AN1A4M DTA114ES
TR1005 AN1A4M DTA114ES
TR1010 2SC945P.Q
TR1002 2SC945P.Q
TR1001 2SC2352
TR1007 2SC945 P.Q
TR1008 2SC945P.Q
TR1009 2SC945P.Q
TR1006 2SC945 P.Q
DEFEAT
VL:0V,VH:0V,U:12V
VL:0V,VH:12V,U:0V
VL:12V,VH:0V,U:0V
TN
AFT
12V
V.SYNC
H.SYNC
R
G
B
BLK


PWC 2729A
CTL-LED PWB
IC401
μPC1473HA
VCC IN C1 GND C2 T C3 OUT
TP4101
T4101
B1 5V 5.0V
B2 REMOCON
B3
B4 ON TIMER
B5 PROGRAM 1/2
B6 AV
B7 S.WIDE
B8 BALANCE
TO PWC 2728A ACPS-PST PWB 'B'
TO PWC 2725 MAIN PWB
TR1101 2SC945 P,Q
TR1102 2SC945P,Q
TR1103 2SC945 P,Q
TR1104 2SC945P,Q
TR1105 2SC945P,Q
TR1106 2SC945P,Q
TR1107 2SA733 P,Q
TR1108 2SA733
TR1109 2SA733 P,Q
TR1110 2SA733 P,Q
TR1111 2SC945P,Q
TR1112 2SA733 P,Q
TR1113 2SC945 P,Q
VR1-C 10KB BALANCE
VR1-B H.HOLD 5KB
VR1-A V.HOLD 10KB
ON TIMER (RED)
POWER (GREEN)
DUAL (RED)
STEREO (GREEN)
D1101 PR05241K
D1102 PR05241K
S1113 MODE
S1112 MODE UP
S1111 SKIP
S1110 MEMORY
S1109 FAST
S1108 TN DN
S1107 TN UP
S1119 MONO
S1117 MODE DN
S1116 PRO 1/2
S1115 S.WIDE
S1114 POSITION CALL
S1118 BAND
S1106 TV/VIDEO
S1105 VOLDN
S1104 VOLUP
S1103 CH DN
S1102 CH UP
S1101 OPERATE
TO PWC 2728A ACPS-PST PWB 'A'


PWC 2729B
REAR PWB
LEFT
SPEAKER
16Ω 5W
RIGHT
SPEAKER
16Ω 5W
EXTERNAL
SPEAKER
TERMINAL
(8Ω 7W MIN)
S6101
EXT
INT
AUDIO
IN
(PHONO)
AUDIO
OUT
(PHONO)
L/MONO
ANT.TEAMINAL BOARD
VIDEO
IN
(BNC)
VIDEO
OUT
(BNC)
TO PWC 2725
MAIN PWB
REMOTE CONTROL (RC
SCHEMATIC DIAGRAM
VCR
TV
D1502
1SS132
S1501
MODE SWITCH

RUN NO. 1

-1033E)



			COMMAND	
	MODE SW		TV	VCR
KEY SW	DATA	CUSTOM	18 $\overline{18}$	19 $\overline{19}$
S1	0	0	CH UP	CH UP
S2	0	1	CH DOWN	CH DOWN
S3	0	2	VOLUME UP	
S4	0	3	VOLUME DOWN	
S5	0	4		STOP
S6	0	5		PLAY
S7 $\overline{S7}$	0	6		REC
S8	0	8	OPERATE	OPERATE
S9	0	9	MUTE	
S10	0	A	TV/VIDEO	
S12	0	C		FF
S13	0	D		REWIND
S14	0	E		PAUSE
S15	0	F	POSITION CALL	
S16	1	0	1	
S17	1	1	2	
S18	1	2	3	
S19	1	3	4	
S20	1	4	5	
S21	1	5	6	
S22	1	6	7	
S23	1	7	8	
S24	1	8	9	
S25	1	A	0	
S26	1	D	PROG 1/2	
S27	1	E	OFF TIMER	
S28	1	F	ON TIMER	
S43	4	2	BASS UP	
S44	4	3	BASS DN	
S29	4	4	TREBLE UP	
S30	4	5	TREBLE DN	
S31	4	6	BRIGHT UP	
S32	4	7	BRIGHT DN	
S33	4	8	CONT UP	
S34	4	9	CONT DN	
S35	4	A	COLOR UP	
S36	4	B	COLOR DN	
S45	1	C	SND WIDE	

PRINTED IN JAPAN

PRINTED IN JAPAN
6P 8709